AMERICA'S ROLE IN THE WORLD COAL EXPORT MARKET
(AMERICA'S COAL PORTS)

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY AND MINERAL RESOURCES

OF THE

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ENERGY AND NATURAL RESOURCES
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AMERICA'S ROLE IN THE WORLD COAL EXPORT MARKET: AMERICA'S COAL PORTS

THURSDAY, SEPTEMBER 16, 1982

U.S. SENATE,
SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:35 a.m., in room 3110, Dirksen Office Building, Hon. John W. Warner, presiding.

Present: Senator Warner.

Also present: Roger Sindelar, counsel and D. Michael Harvey, chief counsel for the minority.

OPENING STATEMENT OF HON. JOHN W. WARNER, A U.S. SENATOR FROM THE STATE OF VIRGINIA

Senator WARNER. The Subcommittee on Energy and Mineral Resources will now have its oversight hearing on America's role in the world of coal and the export market.

Ladies and gentlemen, this is a subject that many of us have been working on for a very long time, and I am grateful for the witnesses coming forward this morning. I wish I could report to you greater promise. I will say that there are perhaps a group of us, six or seven, that are working diligently trying to seek a middle ground on these issues.

That is not to suggest that the other Members of the Senate are ignoring the problem. To the contrary, I think that the Senate has looked to perhaps six or seven of us as persons who spend a good deal of time on this issue and who hope we can together with the private sector forge a consensus.

As you may know, there is a meeting in New Orleans today, tomorrow, between various segments of the port industry to assist Members of the Congress in providing a solution to this problem.

Because of that meeting, I have postponed tomorrow's hearing until such time as we can assess the fruits of that meeting.

In the meantime, I think it is very important to this issue that we keep forging ahead, having hearings such as this in the hopes that this testimony and other facts might provide us with a solution to the problem.

I am going to forgo an opening statement and it will be placed in the record.

[The prepared statement of Senator Warner follows:]

STATEMENT OF SENATOR JOHN W. WARNER

September 16, 1982

The purpose of today's hearing is to examine the role of the United States in the world coal market. We will look at the Federal government's role in coal ports, initiatives taken by private industry and state and local governments to improve coal ports as well as individual coal port projects.

Today we will examine east coast ports and hear from representatives of the Administration and private industry. We will examine Gulf, West coast, and Great Lakes ports at a later date. Representatives of foreign coal ports will testify September 23.

A recent study by Britain's Cargo Systems Research Consultants underscores the importance of improving American coal ports. The study warns that port problems might contribute to a downturn in U.S. exporters' market share of the world coal market after 1985 because American ports will be unable to accomodate super colliers. The study predicts that super colliers will capture a growing percentage of the coal trade. They predict that 1995 over 40 percent of the coal moved will be in 100,000 to 150,000 dwt sthips, and 9 percent of the trade will be moved in ships over 150,000 dwt. No American ports can accomodate 150,000 dwt ships which offer substantial savings to the shipper and ultimately the consumer.

Cargo System Research Consultants predict that total seaborne coal trade will rise from 204 million met in 1981 to 259 million mt in 1985. The market shares of international coal trade in 1985 are estimated to be America 31%, Australia 25%, South Africe 17%, Canada 12%, Poland 9%, and others 6%. Beyond 1985, the U.S. share of the market will decline, according to the consultants , falling to 28.5% in 1990 as new high volume producers in China, the Soviet Union, and Canada come on stream. Port restrictions in the United Staets may well result in only marginal tonnage improvement, according to this study.

If the United States is to retain its share of the world coal trade, we must improve our port facilities and deepen our harbors.

The enormous unprecedented petroleum price increases of the 1970's have forced nations to flee from oil and search desperately for new types of energy and energy partners. The United States is faced with the challenge of being the energy supplier of the free world, but we are not meeting that challenge to our national security and that of our Allies.

The Administration has taken the position that relying on Soviet gas makes the NATO alliance vulnerable to Soviet political and economic pressures. However, this places the burden on the United States to provide our Allies with a competitively priced, reliable alternative to Soviet gas. That latnerative is American coal. To achieve this goal, the United States must develop its coal port infrastructure and expedited project approval.

I will look forward to hearing from our witnesses how the United States can best meet this challenge.

Senator **Warner**. We will start off with the Secretary for Trade Development from the Department of Commerce, Mr. Morris.

OPENING STATEMENT OF HON. WILLIAM H. MORRIS, JR., ASSISTANT SECRETARY FOR TRADE DEVELOPMENT, DEPARTMENT OF COMMERCE

Mr. **Morris**. Thank you, Mr. Chairman. Good morning, and thank you for the opportunity to participate in these hearings on the condition of America's coal exports.

Senator **Warner**. Mr. Morris, you certainly are working hard on this issue. We meet regularly, the latest being yesterday afternoon, I believe, so in no way do I disparage you and your colleagues. It's just a tough question.

Mr. **Morris**. Yes, sir.

Senator **Warner**. We'll find the answer.

Mr. **Morris**. Thank you, sir. As you know, I chair the coal interagency working group whose 13 members are charged with implementing the administration's national coal export policy to facilitate increased coal exports by easing or removing domestic impediments. This policy underscores the importance of coal exports to our national economy and to free world energy importing nations as an alternative to expensive oil supplies.

In recent months, however, America has been under close scrutiny by our trading partners and competitors as well who ask the question "Is the United States' commitment to facilitate increased coal exports real or rhetorical? They ask about our railroad rates, about our coal quality control and about the possible enactment of cargo preference legislation, but most often they ask "Can the United States be competitive and maintain its export market share without deep channels and deep harbors to offer the economies of scale of transportation of the coming generation of large coal vessels?"

I have stated both publicly and privately on many occasions that a "window of opportunity" exists for the United States to substantially increase its share of the world coal export market. World coal trade has been estimated as high as 400 million tons per year by the year 2000.

That we can handle the increased production is a given, but in order for the United States to fully participate in this market, we must offer that production together with adequate ports.

Unfortunately, the port and harbor construction and expansion process in this country is costly and time consuming, sometimes taking up to 25 years from project conception to operation, but, sir, we do not have the luxury of 25 years to properly position ourselves in the coal export market.

Over the last 2 years this concern has been evidenced by the introduction of more than twenty bills in Congress dealing with removing obstacles to early action and providing non-Federal cost sharing for channel deepening, maintenance dredging, and shoreside improvements.

The Administration has supported legislation which would allow economically efficient channel improvements to go forward with the costs borne by the beneficiaries rather than the taxpayers. This legislation would reduce the role of the Federal authorization and budgetary process in determining which projects would be undertaken in favor of increased reliance on the free market.

By reducing the role of the Federal budgetary process in decisionmaking, it should greatly reduce the time required for dredging. Further, administration regulatory relief efforts will streamline the decisionmaking process and further reduce the time required for new construction. But during this same period, we have watched our competitors aggressively working to improve and increase their coal export capabilities.

Australia already has the Port of Hay Point with the ability to load 150,000 ton, deadweight ton vessels. By 1985 they will have four additional ports capable of handling this size vessel—Roberts Bank on the west coast and Quebec City and Sept Isles to the east.

Canada can accommodate supercolliers at three ports—Richard's Bay South Africa can load 100,000 deadweight tons with expansion plans to accomodate vessels up to 250,000 deadweight tons * * * and we would be remiss in not watching Poland's export activity at Gdasnk capable of loading 100,000 deadweight tons, but let me digress a moment and review America's coal exports and their existing export capabilities.

Frequently the distinction between the throughput capacity and the ability to accommodate deep-draft vessels has not been clearly made. If I may, let me draw that distinction. Throughput capacity is the amount of tonnage that can be moved through a given port based on its physical size and handling equipment limitations.

The ability to accommodate deep-draft vessels is determined by the depth of the channel and the depth of the water at the berthing site.

Keep in mind that one is not necessarily interchangeable for the other and that both play a part in America's coal export future.

As reported by the Maritime Administration, the current throughput capacity of America's coal ports stands around 140 million short tons per year at some 18 existing ports, exclusive of the Great Lakes 17 million tons per year overseas export capacity. This makes the total annual throughput capacity some 30 million short tons in excess of 1981's record shipment. More than 400 million tons of capacity are currently under construction or contemplation at this time.

Add these up and by 1985, America could have over 500 million tons of annual throughput capacity, well in excess of total projected demand. Practically all of the ports under construction or study are planning channel depths of 50 feet or more. However, the number of ports that can currently accommodate larger vessels on a regular basis in the United States is but one, the Port of Los Angeles.

Not all coal exports should be of a size to accommodate deep-draft vessels, and under the administration's cost recovery proposals, each port can decide for itself the appropriate depth and size of its channel.

Consider that the 110 million tons shipped in 1981 moved through the following ports—47.6 million tons through the Port of Hampton Roads; 12.8 million tons through Baltimore; 2.4 million tons through Philadelphia; 8.9 million tons through New Orleans;

7.8 million tons through Mobile; and 17.6 million tons through the Great Lakes port system.

For the first 6 months of 1981, a total of 56.7 million tons of coal has been moved through our Nation's ports, an increase of some 36 percent over the same period last year when shipments were reduced by strikes. Of that 56.7 million tons, 38.4 million tons was metallurgical, a 60-percent increase over the same period in 1981, and the remaining 18.3 million tons was steam coal, a 10-percent drop, reflecting coal that was stockpiled—in anticipation of the strike—being utilized.

These figures show that America's export throughput capabilities are not currently strapped. In fact, they highlight the port industry's flexibility in meeting the challenge of an increasing demand, but the question of deep-draft channels posed by our trading partners is a different matter, and to that question I would add the following—can innovative technology be used to keep our window of opportunity open until port deepening takes place?

I think the answer is unequivocally yes. The administration in its position of requiring recovery of port deepening and improvement costs has and continues to stress the importance of market reliance in and answering these other questions, and so far that reliance has proven well founded.

During the incredibly congested days of 1980–81, the rail and port industries quickly solved the problem by streamlining and precisely timing the logistics of rail-to-ship movements. No longer do ships ride at anchor waiting to load.

This demonstrates the ability of the private sector to solve its own problems. And many, many private companies and individuals are proposing and studying innovative handling, loading, or transshipment projects to overcome the lack of deepwater ports.

For example, the use of self-unloading barges of the 30,000-ton class transporting coal from Hampton Roads to deepwater at the mouth of the Delaware for transloading unto large coal ships is now being studied.

This system is currently being used in the Great Lakes by Canada, and recently allowed the loading of a 165,000-ton vessel destined for Japan. Adaptation to America's east coast seems not only reasonable but feasible.

Other proposals contain innovations in ship design to overcome the lack of deepwater. The use of a class of shallow-draft, widebeam vessels could provide economics of scale offered by the deepdraft vessels without the need for deepwater.

The refitting of very large crude carriers into coal ships, lessening up-front capital costs that would be required to build supercolliers from scratch, is another proposal. These ships could be converted within the timeframe in which our channels are in fact deepened.

Offshore slurry loading facilities, floating transshipment terminals, topping off facilities, and many more have been proposed. We must let the market decide whether investment in deeper channels or other alternatives are the more economically correct. For this reason, the administration's proposal is the best way to proceed by allowing the port authorities and private firms the flexibility to make such investment decisions without the cumbersome and the time-consuming delays inherent in the current law and process. But the questions of "which ports," "how many," and "how soon," must be addressed.

Those questions would be best answered by the market rather than the Department of Commerce or other Federal agencies.

Coal exports, however, have been made the focal point behind the push for deep ports, and very frequently the question of deep ports comes up in the trade development and coal export activities in the Department of Commerce. So frequently, that during my trade mission to Europe this past May a special presentation was made by the Maritime Administration's representative to lay out the problems and potential of America's ports as they relate to coal exports. I intend to make that same information available during my trade mission to the Pacific Rim this November. But, neither the Department of Commerce through its coal promotion activities nor the Coal Interagency Working Group can remove or resolve the dilemma. We can answer questions from our trading partners and from people here at home. We can study these short-term alternatives, but obviously we cannot solve the problem alone.

Only by working together—the administration, the Congress, and the coal and port industry—can we march with confidence toward the rapidly approaching future.

Thank you, Mr. Chairman. I will be happy to answer your questions at this time and would also like to compliment you personally for the efforts that you are making to find a solution to this most difficult problem.

Senator WARNER. Thank you, Mr. Morris. I think you state it succinctly on page 9, and I'll repeat the paragraph, "But the questions of 'which ports' and 'how many' and 'how soon' must be addressed. Those questions would be best answered by the market rather than the Department of Commerce or other Federal agencies." You exercised the better part of discretion and left the Congress out, but I think that could be added also, and our job, the administration working with the Congress, is to establish that framework of laws within which the private sector and the marketplace can make those judgments.

Would that be correct?

Mr. MORRIS. Absolutely, sir.

Senator WARNER. Now back on page 2 you addressed the costly and time-consuming experience America has had in the construction and expansion.

Are there any comparison with the other countries; in other words, when they decide to do something, how quickly they can bring it to fruition?

Mr. MORRIS. Yes, sir. Just recently we had a situation where Canada, brought a new port on stream to completion in less than five years.

Senator WARNER. That is compared to a length of up to 25 that you mentioned in America. For that reason I would presume that you would recommend that legislation contain what we call fast tracking provisions?

Mr. MORRIS. Yes, sir. That is absolutely necessary because if we are going to be the major coal supplier of the world, we have only a short timeframe in which to begin to dredge these channels.

Senator **Warner**. Mr. Secretary, I am concerned about the overall impact of this proposal of the administration on the competitors of America's coal and other trade goods.

To your knowledge, has there been done by the administration an indepth study for public consumption of the total impacts that these might have on our goods?

Do you believe that such a study would be beneficial on this issue? If asked, would your Department participate in such a study?

Mr. **Morris**. Yes, sir, we would, and I think such a study as you suggest could be very helpful in the future of this legislation.

Senator **Warner**. Well, it is a cart and horse situation. Should we have the study first and then the legislation or the legislation and then the study? Is there a way?

Mr. **Morris**. If we could begin the study and complete it in perhaps 6 months timeframe so, that by the time the new Congress comes into being, we would then be in a position to go forward with legislation, it would be advisable.

Senator **Warner**. And that study would embrace what issues that you could achieve in 6 months?

Mr. **Morris**. The impact of user fees from the ports, I mean from the mine mouth to the port, looking at it both where the transportation was rail and where the transportation is on the waterway because there would be some disparity of difference in charges depending on which type of transportation was used. The objective would be to look at the various bills that are now before the Congress, the impact of those bills on a ton of coal moved from the mine mouth to the port, and the total of the user fees on a ton of coal in each of the major port locations.

In my meetings with the people in the European Community they have all expressed an interest in our user fee concept, and well, I think every major country that I have dealt with has said that a user fee in the neighborhood of 50 cents to $1 a ton would be very acceptable to them because they could still save from $3 to $5 a ton by using the supercoal collier, so the user fee study could determine what the actual user fee would need to be.

Senator **Warner**. Would you expand on your contact with the foreign coal customers and elaborate on lost sales to this country due to inadequate port capacity?

Mr. **Morris**. Yes, sir. Basically today we have a worldwide economic downturn, and there is a tremendous glut of coal if you will in the European community.

What they are looking at is beginning to purchase large sums of coal beginning in 1985, late 1984 and early 1985.

Senator **Warner**. When you say "glut" did you mean both steam and "met"?

Mr. **Morris**. Yes, sir; both, because what has happened, they have long-term coal contracts with South Africa, Poland, and Australia, et cetera. Those contracts have been continually furnishing coal, and so the coal is now stored on the ground in many parts of Europe.

The problem is they are gradually converting their generation of electricity from oil to coal in most instances, nuclear in some areas, as to a lesser degree. If they are going to depend on the United

States to be a major supplier, they want to be assured that they can buy coal from the United States in vessels of 150,000 to 200,000 tons. They are going to be making those decisions in 1983, 1984, and therefore, we have to demonstrate to them at that time our ability or our desire to deepen the channels. Otherwise we will miss those long-term contracts.

Senator WARNER. In your opinion, do America's ports provide a potential for an overall beneficial improvement in the balance of payments?

Mr. MORRIS. Yes, sir. We have an opportunity to make a drastic impact on the balance of payments deficit through the exporting of coal. If you figure just the basic price of $50.00 a ton and figure that by 1990 we should be shipping 175 million tons from this country if we are able and have the dredging that we need, the channel depth that we need, it would have a tremendous impact on the deficit.

Senator WARNER. Thank you, Mr. Secretary, for your valuable contribution this morning. We will continue to forge ahead.

Mr. MORRIS. Thank you, sir, and thank you for your leadership.

Senator WARNER. We will now hear from Mr. G. Edward Dickey, economic adviser to the Assistant Secretary of the Army for Civil Works. Good morning, sir.

Mr. DICKEY. Good morning, Mr. Chairman. It is my pleasure to be here on behalf of the Department of the Army. I am accompanied today by Col. Charles T. Myers, Assistant Director for the Lower Mississippi and Gulf, and Mr. Richard L. Schultz, transportation specialist in the Office of the Chief of Engineers.

With your permission, Mr. Chairman, I would like to read my short prepared statement.

Senator WARNER. Please go ahead.

STATEMENT OF DR. G. EDWARD DICKEY, ECONOMIC ADVISER TO THE ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, DEPARTMENT OF THE ARMY; ACCOMPANIED BY CHARLES T. MYERS, III, ASSISTANT DIRECTOR OF CIVIL WORKS, LOWER MISSISSIPPI AND GULF, ARMY CORPS OF ENGINEERS; AND RICHARD L. SCHULTZ, TRANSPORTATION SPECIALIST OFFICE, CHIEF OF ENGINEERS, ARMY CORPS OF ENGINEERS

Dr. DICKEY. I am pleased to appear before this subcommittee today to present testimony on the programs of the Department of the Army to facilitate coal exports, and on the administration's position on port improvement projects and legislation.

In my prepared remarks I wish to address four topics—one, the current situation with regard to the operation and maintenance of the Nation's waterways and ports by the Army Corps of Engineers; two, future deep draft-harbor and channel improvements; three, the rationale for user charges and cost recovery for these types of navigation expenditures; and four, regulatory reform.

Operation and maintenance of the Nation's waterways and ports is an important function of the Corps of Engineers. In fiscal year 1982, the corps will spend about $565 million to operate and maintain the Nation's waterways and harbors. The President's budget for fiscal year 1983 contains a request for $465 million for both shallow-draft and deep-draft navigation operation and maintenance. The reduced funding is consistent with the administration's position that operation and maintenance expenditures, as well as future capital expenditures, should be primarily a non-Federal responsibility paid for through user fees.

The budget amount would have resulted in a 20-percent reduction overall for deep-draft maintenance. This would impact about 40 ports which collectively handle only about 2 percent of U.S. seagoing traffic. None of the 35 U.S. ports authorized and maintained at 40 feet or deeper, which handle over 50 percent of the Nation's water-borne commerce, would have been affected, and the budgeted O&M reduction would not have affected the volume of coal exports. The disposition of the administration's request is now, of course, in the hands of the Congress.

Future deep-draft harbor and channel improvements are areas of major concern in this time of budgetary austerity. We are aware of the growing number of ports interested in harbor deepening projects to enable coal and other commodities to be exported at significant savings over the cost of using smaller or partially loaded vessels operating at existing channel depths. While the cumulative cost of these projects is not fully known, it certainly is in the range of several billion dollars within the next decade or so.

In spite of the potential merits of these navigation improvements and other water resource development projects, the hard facts are that there have been limited construction new starts in recent years, and no major legislation authorizing new projects has passed Congress since the middle of the last decade.

To help assure that the productive deep draft-harbor and channel improvement proposals move forward in an orderly and efficient fashion, the administration wants the costs of these improvements which can be assigned to commercial beneficiaries to be recovered from those beneficiaries over time in accordance with their realization of the project benefits. Moreover, the fully marketable nature of these navigation services provides a basis for non-Federal sponsors to finance a major portion if not all of the capital costs of these projects. Non-Federal financing will not only relieve pressures on the Federal budget, but will also provide a market test of the feasibility of the proposed project.

Consistent with the administration's objectives for increased non-Federal participation in water projects, the Department of the Army has fashioned financing and cost-sharing proposals which with Congress support will enable us to move out in fiscal year 1983 with a construction new-start program for the Army Corps of Engineers.

Specifically for fiscal year 1983, we sought as a purely voluntary arrangement increased non-Federal financing of project construction in accordance with the following percentages, the primary basis of which is vendibility of outputs.

For the costs of hydropower and municipal and industrial water supply, we asked non-Federal financing amounting to 100 percent of the project cost.

For flood control, we asked for a 35-percent non-Federal contribution to the project financing; in the case of recreation, 50 percent; and for commercial navigation, specifically ports, we asked for a 75 percent non-Federal contribution to financing with the understanding that the 25-percent Federal financing share would be reimbursed over the economic life of the project.

Based on the commitments we received from project sponsors to the innovative financing objectives we proposed, the President proposed initial construction funding for nine new civil works projects in 1983. Unfortunately, none of the five ports we contacted were agreeable to proceeding with channel dredging under innovative financing in light of the current uncertainties over deep-draft cost recovery and the existing legal prohibitions against charging tolls for channel improvements. The Department is confident that with removal of these uncertainties, productive port projects will move ahead.

Upon enactment of cost recovery legislation which would allow non-Federal financing of a major portion of harbor improvement projects and recovery of the costs from project beneficiaries, the administration is ready to move forward in the development of port projects in the same expeditious manner as it has for other types of projects recommended in the Department of the Army's fiscal year 1983 new construction start initiative.

I want to now outline the rationale behind the administration's views on cost recovery for deep-draft harbors and channels.

The administration's specific legislative proposals are contained in amendment No. 636 to S. 809. There are four principles which underlie our position on deep-draft navigation cost recovery. First, the administration desires to recover as much as possible of the cost of operation and maintenance and all of the costs for future capital improvements for the Nation's deep-draft harbors which can be assigned to commercial navigation. We see no economic or other basis in continued Federal subsidies to deep-draft commerce.

Second, the system of cost recovery should promote economic efficiency. Accordingly, cost recovery mechanisms which are port specific are preferred.

Third, leaving the form and structure of port user charges to individual port authorities rather than having a uniform national system best serves the twin objectives of full cost recovery and economic efficiency. Port authorities should be able to tailor these charges in a way which minimizes the traffic diversion and insures continued viability of existing ports.

Moreover, in those cases where there is simply insufficient traffic to enable a port to recover its annual operation and maintenance charges through user fees, the regional taxpayers should be able to decide for themselves whether or not a regionally based public subsidy to commercial navigation is warranted.

Fourth, when project costs are paid for by beneficiaries, as opposed to taxpayers, the Federal scrutiny and analysis which has served to so extend the time required to bring an improvement to fruition may be diminished. Accordingly, any user charge legislation could provide for an expedited project authorization process.

The administration believes that these four principles should be seriously considered in any legislation to provide for cost recovery for deep-draft navigation. Within the framework of these principles, the administration is eager to work with the Congress to develop a mutually satisfactory proposal which would eliminate the present unwarranted Federal subsidy to commercial water-borne shipping.

Regulatory reform is an important element in the expediting of projects. In the interest of reducing uncertainty and delays while still responding to the environmental concerns, the administration has initiated a major regulatory simplification program to process Corps of Engineers' permits on a shorter and more predictable timetable for work in ports and waterways, as well as other areas.

In the permit area, the Army and other Federal agencies have been directed by the Presidential Task Force on Regulatory Relief to establish shorter review periods, new interagency agreements, broader use of general permits, and to redefine and clarify the jurisdictional reach of the regulatory program.

In conclusion, our waterways and harbors are vital elements in America's transportation system. Collectively, they produce economic benefits far in excess of their costs. Unfortunately, these benefits are realized now only at a very substantial cost to the American taxpayers. There is no reason to continue these taxpayer subsidies to the business sector. They are not only expensive, but they distort the functioning of the private economic system and inhibit the implementation of vital capital improvements.

The Department of the Army urges Congress to work toward enactment of cost recovery legislation which will permit us to fully realize the potential of our past and future port investments.

Thank you very much. I will be glad to answer your questions.

Senator **Warner**. Turning to your first page, operation and maintenance, is there a table in existence showing each of the ports, what you or the Federal Government spends each year on O&M and what those ports should return in the way of contribution to America's trade?

In other words, is there cost analysis? What does America get in return for the O&M on certain ports?

Dr. **Dickey**. Mr. Chairman, yes. The Corps of Engineers, of course, has an extensive data base, and we have an array of ports and the amount that is spent annually for operation and maintenance. We also have available the associated quantity of commerce. In fact, it is quite a detailed breakdown. We would be happy to make that available.

Senator **Warner**. Can you also do it in such a way to show which of the ports are cost effective? I mean as a part of this legislation we may have to determine that a certain port will survive and others are just economically unviable.

Dr. **Dickey**. Yes. We have that information, sir, and you are quite right. There is a very wide range in annual O&M costs per ton, ranging from almost nothing up to over $1,000, the average being only about 18 cents. So the average is very, very low.

Senator **Warner**. The Army Corps of Engineers has recently released cost figures and user fees that they will impose on a ton of coal. O&M would be 23 cents per ton. Adding construction costs would raise this to approximately 31 cents a ton.

Would you expand on these figures and tell us what formula was used?

Dr. **Dickey**. Let me ask Mr. Schultz to address that.

Mr. **Schultz**. Senator Warner, the corps has not performed studies of construction costs related to tonnage handled by the ports. I have done some work of my own, using the publicly available figures. These are the tonnage projections from the corps feasibility studies, and the cost estimates by the corps; or in their absence, consensus cost estimates for the particular projects I assume many of the individual ports that are involved have run those same numbers, or are familiar with them.

I have numbers with me for Baltimore, Hampton Roads, Mobile, New Orleans, New York, and Los Angeles. Just one example using the published tonnage statistics for 1979; the cost at Hampton Roads—this includes the multiple ports there—based on all seagoing traffic, this excludes local and internal traffic would be for the 55-foot project, $1.45 a ton. On all-bulk cargoes—which are a component of seagoing tonnage—$1.59, and the final figure, just 1979 tonnages that would move in ships larger than 70,000 deadweight tons based on studies of what the fleet composition is, $22 a ton.

The real numbers to look at, though, are the forecasts out in the future when tonnage develops based on the deeper draft. Using the year 2000 forecasts from the Corps of Engineers for all seagoing traffic, that same project cost recovery would be 62 cents a ton, or on all bulk cargoes, only 71 cents a ton, or on the cargo via the limited number of very large vessels, $3.25 per ton.

Senator **Warner**. Is that based on 100-percent cost recovery?

Mr. **Schultz**. That is 100 percent, yes, and that is at high interest rates, current high interest rates such as those specified in some versions of the proposed user charge legislation, specifically the longest maturity Government bonds which were 14-percent bonds.

Senator **Warner**. Do you have cost figures for other formulas such as 75-25 Federal projects?

Mr. **Schultz**. I do not have them with me, but they can be worked out.

Senator **Warner**. I would like to have you work with the staff on that and also the 50-50 Federal projects.

Mr. **Schultz**. Yes.

Senator **Warner**. You mentioned regulatory reform to speed up dredging projects.

How much time would you save under such reforms?

Mr. **Dickey**. Mr. Chairman, I am not intimately familiar with the details of the regulatory reform. I do know that the changes can reduce substantially the delays, but I don't have that information. I would be happy to supply it for the record.

[The information follows:]

REGULATORY REFORM

The tabulation of statistics given below shows that, even in cases where there are absolutely no objections, permit processing time averages over two months and can run as long as six months. If any objections at all are raised, regardless of the merits of the objections, processing averages nine months. Where environmental impact statements are required, it takes an average of over two years and can take up to four or five years to get a decision on a permit application. Over 5,000 individuals and businesses annually are subjected to the major delays and an additional 10,000 or so experience unwarranted delays of several months.

	1981			1980		
	# 1/	% of Total	Avg. Time (Days)	#	% of Total	Avg. Time (Days)
All permits	16,300	100	131	15,500	100	139
Permits without objections	10,900	67	68	10,600	68	76
Permits with objections	5,400	33	260	4,900	32	271
Permits with EIS's	30	<1	815	46	<1	768

To remedy this unacceptable situation, on May 7, 1982, the Presidential Task Force on Regulatory Relief directed the Corps to reform the regulatory program. The actions the Department has taken to date include the implementation of new Memoranda of Agreement with the EPA and the Departments of Interior and Commerce. These agreements help shorten processing times and provide a mechanism to quickly resolve agency disagreements on permit cases. Then, on July 22, the Corps published interim final regulations which make many small changes that, taken together, will greatly assist the permit applicant in getting a decision in a reasonable period of time. In these regulations, a goal of a 60-day processing time is established, and the program will be closely monitored to determine where further efficiencies can be achieved without sacrifice to the protection of the Nation's waters.

1/ Numbers have been rounded.

Senator **Warner**. We thank you very much for your valuable contribution this morning.

Next, Mr. Mark R. Joseph, president, Anker Energy Corp., representing the National Coal Association and the Coal Exporters Association—we welcome your return, Mr. Joseph.

Mr. **Joseph**. Thank you, sir. I appreciate this opportunity this morning.

Senator **Warner**. If you would bring that microphone up a little closer and perhaps give us a basic summary of your statement if you would.

Mr. **Joseph**. Yes, sir.

STATEMENT OF MARK R. JOSEPH, PRESIDENT, ANKER ENERGY CORP., ON BEHALF OF THE NATIONAL COAL ASSOCIATION AND THE COAL EXPORTERS ASSOCIATION; ACCOMPANIED BY CONNIE HOLMES, VICE PRESIDENT, INTERNATIONAL TRADE, NATIONAL COAL ASSOCIATION AND EXECUTIVE DIRECTOR, COAL EXPORTERS ASSOCIATION

Mr. **Joseph**. Mr. Chairman, my name is Mark R. Joseph. I am president of the Anker Energy Corp. in New York. My company, a coal producer and trader, exports some 3 million tons of coal each year and produces 2 million tons annually.

Senator **Warner**. Mr. Joseph, we would request you get that mike up a little closer. Perhaps it is not functioning as well as it should.

Mr. **Joseph**. I am here today representing the National Coal Association and the Coal Exporters Association. Together the two associations represent over 65 percent of the Nation's annual coal production and over 90 percent of all exports. I am chairman of the Coal Exporters Association and a member of the Board of Directors of the National Coal Association.

I am accompanied by Connie Holmes, vice president, international trade of the National Coal Association, and executive director of the CEA.

Mr. Chairman, we appreciate the opportunity to appear here today to discuss the condition of coal ports in the United States which are a vital part of the transportation chain which links our Nation's coal mines to our customers' utility and steel plants abroad.

As has been demonstrated so visably in the past 2 years, coal ports have been a very weak link in the chain, a weakness which can cause a sharp loss of market in periods of high demand for U.S. coals. Strengthening this link is critical to the future utilization of American coals abroad, and thus in the long run is vital to the energy security and stability of our trading partners overseas.

Mr. Chairman, you are to be commended for continuing to focus congressional attention on this very critical area.

It is true that great strides have been made in improving the efficiencies of our ports. Additionally, a relatively weak market for coal worldwide has resulted in lower traffic at some ports and in less pressure for rapid improvement and expansion of coastal loading facilities and for dredging harbors and channels to depths necessary to accommodate an expanded and competitive coal trade, but we cannot sit back and assume that because there are no long lines of vessels off our east coast that all is well. We must continue to build loading capacity. We must put an end to the delays of the last two years in authorization of deeper drafts at selected harbors on the east, gulf and west coasts at some coastal ports. If we do not take action soon, the export market of today will be the export market of 1990. The United States will have missed our opportunity to capture a maximum share of the increasing international coal market.

Over the last 2 years we have pointed out that the coal market for steam coal is increasing rapidly. The U.S. coal industry is in a unique position to take advantage of the new opportunities afforded by this increase in demand for coal. We have stated that the only way that the United States can play a major long term role in the market is to be a competitive supplier, to have the ability to deliver our coals to Rotterdam, to France, Japan, or elsewhere, at a price that is comparable with the price of similar quality coals delivered to the same ports from Australia, Canada, South Africa.

We have said that the only way to enable the United States coal to be competitive abroad, to be the long-term contract supplier and not the marginal spot supplier, is to improve our coal exporting infrastructure by improving existing coal loading facilities and constructing additional terminal capacity at coastal ports, and by deepening selected harbors on the east, west and gulf coasts to allow the use of larger, more cost-effective bulk colliers not now able to call at any port in the United States.

Mr. Chairman, our statement this morning must repeat these basic facts. The world market is if anything more competitive today than it was a year ago. The need for a competitive transportation system to hold down delivered prices of American coals has become more necessary than ever before if we are to keep our current markets, let alone increase the share of American coals on the world market.

Furthermore, the requirement that the United States deliver coal, energy, to our overseas customers at a reasonable price is even more compelling than a year ago as it is the United States coal that in essence sets the relative price levels for coal trades in the world market. If coal is to be a viable fuel source, these prices must be as reasonable as possible.

I would like to expand on these points by briefly reviewing the changes in the outlook for the world coal market which have occurred over the last year, by summarizing the progress which has been made by the private sector in developing the coal exporting infrastructure in the United States, and finally, by repeating our urgent request of the last 2 years that Congress move quickly to pass legislation authorizing the deepening of coastal ports and channels wherever such projects are economically viable.

World coal trade increased by some 30 million metric tons from 1979–81, and is expected to remain at 1982 levels this year and next. The U.S. share of the world market has increased from 24 to 43 percent. The net increase has been in the steam coal trade despite studies issued prior to 1979 which forecast only minimal steam coal trade before the mid-1980's.

The reasons behind the increased demand for this coal as well as the reasons underlying the U.S. dominance of the increasing trade are well documented in my full statement and I will not read them here.

The inroads made by the U.S. coal in the world market in 1971, in 1980, and 1981 were made by filling the role of the swing supplier, but to avoid the problems of the sharp cyclical swings which typify the lot of those able to sell primarily on a spot basis, long-term contract business must be obtained. The United States can only be a long-term supplier if we consistently deliver the quality coals required by our customers on a cost-competitive basis.

The world has moved from a situation of excess coal demand to excess coal supply. The rate of increase in coal traded on the world market has slowed perceptibly. The coal boom of 1979, 1980, and 1981 was produced by short-run decisions to convert existing utility boilers from oil to coal wherever possible. These conversions have been made. The next upsurge in total world demand will be the result of longer-term decisions to concentrate on coal firing when building new plants. It takes several years to bring a totally new plant into operation, and thus the slowing of the market growth rate was inevitable.

Additionally, overall demand for coal for purchase is down because there is a lower economic activity worldwide. Electricity growth in Europe and Japan is low or negative. Steel production is lower than in 1981, and in some countries the steel industry is in a depression, not a recession. Stockpiles of coal in Europe and Japan are at record highs.

Combine low coal requirements with an increase in coal availability in competing countries, South Africa and Poland who have the ability to sell at far lower prices than does the United States, and it is clearly clear why U.S. exports are not increasing in the short term. In fact, we will export less this year and next than in 1981 when we shipped 110 million tons from this country.

The long-run outlook is much more promising. Longer term decisions to convert to coal will mean a continued increase in coal demand, but the long-run outlook is not quite as firm as was forecast 1 or 2 years ago due to lower expectations of demand for electricity, but at the same time that the rate of increase in demand is showing some signs of slowing down, new coal production capacity dedicated to export and with supporting transportation and port infrastructure is being rapidly developed in Canada, South Africa, Columbia, and Australia where production and transportation costs are lower than in the United States.

The world coal market is becoming more competitive, and the United States must hold costs down and take advantage of every efficiency to remain a leader in the world energy market. Cost efficiencies must be gained throughout the coal chain from the coal mine to the ultimate consumer. I would like to focus, however, on three areas affecting the weakest segment, the transport of coal.

First, the construction of new loading facilities at coastal ports; second, deepening selected harbors and channels on the east, west, and gulf coasts to allow these same economies of scale; and three, the use of alternative shipping technologies to achieve the economies of scale in shipment.

The increase in demand for U.S. coal overseas described in the previous section was not without problems, the most visible of which was the long line of vessels off the east coast waiting to take on coal. This short-run problem was caused by the lack of capacity, lack of throughput capacity at our coastal port coal loading facilities.

In a very short period numerous measures have been taken by railroads, coal companies, private terminal operators to increase effective port loading capacity. Temporary use of loading facilities designed for other bulk commodities, use of midstream barge to ship loading, utilization of older, less efficient piers, use of alternative transportation routes, and managerial efficiencies achieved by the various parties in the coal export chain have effectively doubled existing coal loading capacity.

Implementation of an advanced vessel registration system accomplished in the spring of 1981 at both Baltimore and Hampton Roads has sufficiently reduced both the number of waiting vessels and the average waiting time for each vessel in port. These measures have significantly reduced the c.i.f. dollar cost to U.S. coals abroad by reducing demurrage and ocean transportation costs, and coupled with market conditions, they have also temporarily solved the capacity problems.

This short-term situation in which there is a small margin of excess capacity at coastal loading ports could change rapidly. To correct the lack of sufficient modern coal loading capacity on a long-term basis, industry is rapidly expanding port loading capacity through construction of new coal piers and by the expansion of existing piers. The first of these new piers, the Curtis Bay Company's 12 million annual ton facility at Baltimore, was dedicated in early August. Almost 150 million tons of new loading capacity is under construction at various ports on the east, west, and gulf coast. Another 300 million tons of capacity are in the planning stages. It is clear that private industry initiatives are working to permanently solve the port capacity problem.

It is equally obvious that not all the planned and announced capacity will come on line within the planned timeframe or will not be built for the throughput originally planned. Some projects may never advance beyond the announced and planning stage, but there is now enough capacity on line and close to completion to handle forecast demand and more for several years in the future. Given the advantages of long-term planning which has made possible long-term contracts, port loading capacity will not be a problem in future years.

The capacity to load coal efficiently must be combined with the ability to ship it economically. The economies of scale in using larger colliers for long-distance ocean transport have been illustrated through the experience of our customers. Today an estimated 65 percent of coal and world coal trade is hauled in vessels of the 35 to 80 thousand deadweight ton class. Only 7 percent of the coal is hauled in vessels of 100,000 tons deadweight or more. By 1985 an estimated 25 percent of world coal trade shipments will be in these larger colliers, and by 1990, 44 percent of the tonnage may be hauled in these vessels.

Our competitors in the coal trade—Canada, South Africa, Australia, and Poland—already have deep draft access to many of their coal handling ports and are developing greater loading capacity at those ports. Many coal importing nations either have or have access to deep draft ports. The United States, however, does not have one coal port on the east or gulf coast with draft greater than 45 feet, equivalent to 100,000 deadweight ton vessel, and it has only one port area, Los Angeles, the Port of Long Beach, on the west coast with a 50-foot draft. This places coal from the United States already the highest priced on the world market, at an even greater competitive disadvantage.

If the United States is to capture a full share of the growing international coal market, we must orient selected ports toward larger vessels and develop our own deep draft port capability. Time is short. Foreign coal buyers must secure supplies years in advance and they are making decisions now based on a negative perception that the United States has no firm policy regarding deep draft port development for coal exports. The Congress can dispel this notion by acting quickly to pass legislation authorizing the construction on an expedited basis of deeper channels at our coastal ports.

Senator WARNER. If I could interrupt, that would be the most important thing probably you said here this morning.

Mr. JOSEPH. It is clear that Congress does recognize the importance of channel improvements to the future of the coal trade as well as the future of other foreign trade. More than two dozen bills have been introduced in the 97th Congress to authorize and to accelerate channel improvements. It is important here to point out that not all ports require a deeper channel exceeding 45 feet. Much of the work that needs to be done is improvement of channels to handle Panamex size vessels. Legislation authorizing the construction of deeper draft channels is as important as coal in other trades with these ports as for trade at ports which might be dredged below 45 feet.

With this constraint in mind, and in recognition of the importance of making improvements at an early time, the National Coal Association over a year ago voted to support the concept of a Federal/private cost-sharing arrangement to find the construction costs of these projects. The concept of non-Federal financing of waterway projects, originally proposed by the administration, has generated a great deal of debate and disagreement. For example, what share should be borne by the Federal Government? What by the private sector? Which entity has responsibility for annual operation and maintenance costs? Should O&M costs be shared? What form should user fees take? Should they be port specific or uniform among all ports? How should the private share be funded?

The debate and differences of opinion on each of these issues has caused substantial delays in passing needed legislation. Therefore, to allow private interests to proceed with channel improvements as soon as possible at those ports with traffic to justify the improvement, NCA supports legislation which would, one, give generic authorization to coastal ports to dredge channels to deeper depths where current and expected traffic will put the project on an ecomomically sound basis, and two, authorize the port or locality to collect user fees to pay for the cost of channel improvements. These fees should be port specific in nature, not a uniform nationwide fee, based on cargo tonnage applied equally to all cargoes traveling in vessels of the same size class and using the same depth of water, and annual operation and maintenance costs should be retained by the Federal Government.

The NCA position represents support for a change in waterway policy. However, it is important to recognize that the Federal Government has been involved in the development and maintenance of our coastal harbors since the formation of our Nation. Billions of dollars of private sector investment have been made in establishing existing onshore facilities and in developing the commercial traffic patterns which now exist.

The Nation benefits from this economic activity and trade. The benefits do not accrue to the industry using the port or to the port city or region alone. The Federal Government has a responsibility to maintain the port channels at already authorized depths for the use of which the private sector made billions in good-faith investments over the years.

We recognize that the rules of the road have changed and that new projects should be a joint responsibility of the Federal Government and the user, but existing projects should have the benefit of continued Federal maintenance and financial support. The private interest should not be asked to pay for a project, for both costs and time are indeterminate due to delays caused by Government regulations and review procedures.

Accordingly, any proposal calling for non-Federal financing of a portion of a port and harbor improvements or for inland waterway improvement should include a mechanism for expediting permitting procedures and the environmental review process for both shoreside facilities and for the dredging of harbors and channels.

There are alternative ways of loading large colliers which are being developed due to the delay in authorizing improvement of channel depths at the coastal ports. For example, coal is now being shipped through the Great Lakes to be reloaded at Sept Isles in 150,000-ton-deadweight vessels. It has been proposed that the Delaware Bay, where natural depths are 65 feet, be used as a transfer point to large vessels for coal loaded at Philadelphia, Baltimore, and Hampton Roads.

Another project under consideration would utilize barges loaded with coal and then stowed in a specially designed vessel. These vessels would be loaded offshore and would not face draft restrictions.

We are able to utilize the larger colliers now in some cases, but these new shipping technologies do not obviate the requirement for legislation authorizing port improvements for several reasons. There will be enough demand for shipping in larger colliers that conventional loading methods will be required. Dredging is not always for very deep draft. As pointed out, many ports need to be dredged to handle even Panamex vessels.

Individual ports should be allowed to decide if deeper channels are required. The decision should be based on sound economic analysis, not solely on political strengths. This is the reason behind our belief that ports should be authorized to dredge their harbors to deeper depths and to pay for such work through port-specific user fees, if the project makes sound economic sense, and it may not in all cases.

Mr. Chairman, in summary, the condition of our coal ports is vital to the future coal trade of our Nation. The condition of these ports was bad, has improved, and will be even better in the future. We will have the best ports with the help of the Congress in taking the steps outlined above.

The private sector has and continues to do its part, and we are willing to do more. It is now the Congress turn.

Thank you, sir.

[The prepared statement of Mr. Joseph follows:]

NATIONAL COAL ASSOCIATION

Statement

of

Mark R. Joseph
President
Anker Energy Corporation

On Behalf Of The

National Coal Association

And The

Coal Exporters Association

On

THE CONDITION OF COAL PORTS IN THE UNITED STATES

Before the

Subcommittee on Energy and Mineral Resources

of the

Energy and Natural Resources Committee

United States Senate

Washington, D.C.

September 16, 1982

Mr. Chairman, my name is Mark R. Joseph. I am President of Anker Energy Corp. in New York. My company, a coal producer and trader, exports some three million tons of coal each year and produces some two million tons annually. I am here today, representing the National Coal Association and the Coal Exporters Association. Together, the two associations represent over 65 percent of the nation's annual coal production and over 90 percent of all exports. I am Chairman of the Coal Exporters Association and a member of the Board of Directors of the National Coal Association. I am accompanied by Connie Holmes, Vice President, International Trade of the National Coal Association and Executive Director of the CEA.

Mr. Chairman, we appreciate the opportunity to appear here today to discuss the condition of coal ports in the United States. Our coastal ports are a vital part of the transportation chain which links our nation's coal mines to our customer's utility and steel plants abroad. As has been demonstrated so visably in the past two years, coal ports have been a very weak link in this chain, a weakness which can cost a sharp loss of market in periods of high demand for U.S. coals. Strengthening this link is critical to the future utilization of American coals abroad and thus, in the long run, is vital to the energy security and stability of our trading partners overseas.

Mr. Chairman, you are to be commended for continuing to focus Congressional attention on this very critical area.

Great strides have been made in improving the efficiencies of our ports. A relatively weak market for coal worldwide has resulted in lower traffic at some ports and in less pressure for rapid improvement and expansion of coastal loading facilities and for dredging harbors and channels to depths necessary to accommodate an expanded and competitive coal trade. But we cannot sit back and assume that because there are no long lines of vessels off our east coast that all is well. We must continue to build loading capacity, we must put an end to the delays of the last two years in authorization of deeper drafts at selected harbors on the East, Gulf and West coasts at some coastal ports. If we do not take action soon, the export market of today will be the export market of 1990. The United States will have missed our opportunity to capture a maximum share of an increasing international coal market.

Over the last two years, we have pointed out that the world market for steam coal is increasing rapidly. The United States' coal industry is in a unique position to take advantage of the new opportunities afforded by this increase in demand for coal. We have stated that the only way that the United States can play a major long term role in the market is to be a competitive supplier — to have the ability to deliver our coals to Rotterdam, to France, to Japan or elsewhere at a price that is comparable with the price of similar quality coals delivered to the same ports from Australia, Canada or South Africa. We have said that the only way to enable United States coal to be competitive abroad — to be the long term contract supplier not the spot supplier — is to improve our coal exporting infrastructure by:

- Improving existing coal loading facilities and constructing additional terminal capacity at coastal ports; and by
- Deepening selected harbors on the East, West and Gulf coasts to allow the use of larger, more cost effective bulk colliers not now able to call at any port in the United States.

Mr. Chairman, our statement this morning must repeat these basic facts. The world market is — if anything — more competitive today than it was a year ago. The need for a competitive transportation system to hold down delivered prices of American coals has become more necessary than ever before if we are to keep our current markets let alone increase the share of American coals on the world market. Further, the requirement that the United States deliver coal -- energy -- to our overseas customers at a reasonable price is even more compelling than a year ago as it is United States coal that in essence, sets the relative price levels for coal trades in the world market. If coal is to be a viable fuel source, these prices must be as reasonable as possible.

I would like to expand on these points by reviewing the changes in the outlook for the world coal market which have occurred over the last year, by summarizing the progress which has been made by the private sector in developing a coal exporting infrastructure in the United States, and finally by repeating our urgent requests of the last two years that Congress move quickly to pass legislation authorizing the deepening of coastal ports and channels whereever such projects are economically viable.

I. The World Coal Market Has Become More Competitve In The Last Two Years

World coal trade increased by some 30 million metric tons from 1979 to 1981 and is expected to remain at 1981 levels this year and next. Almost all this increase has been in the steam coal trade, despite studies issured prior to 1979 which forecast only mininal steam coal trade before the mid-1980s. The reasons behind the increased demand for steam coal in the trade are well documented and include:

- A sharp increase in demand for coal for use by utilities and industrial plants, especially in Europe, as conversions are made from oil to coal due to the increased price of oil; and
- The inability of domestic, i.e., EEC, coal producers to keep pace with inceases in demand. (Annual deliveries of coal to consumers in EEC member nations have increased by over 25 million metric tons since the end of 1978; but, production of coal in these nations has increased only 7 million metric

tons.)

During the same time period, 1979 through 1981, exports from the United States increased by 42 million metric tons, and the U.S. market share of the "free world" trade increased from 24 percent in 1979 to 43 percent in 1981.

The reasons underlying the United States dominance of increase in world coal trade during this period included:

- Unavailability of coal from Australia due to strikes in the mining, railroad and port industries of that country;
- Policital problems and strikes in Poland which forced many European buyers to replace coal unavailable from this traditional source; and
- Unavailability of marginal supplies of spot coal from South Africa as the export capacity of that country was fully committed.

United States coal was readily available to fill the gap between coal demand and available coal supply. The industry was, and is, operating at 100 million annual tons less than full capacity. Coal, at the mine, was and is, available at very favorable prices. As a result of these factors, overseas exports of coal increased from 65 million short tons in 1979 to 92 million short tons in 1981.

United States coal made inroads in the world market, in 1979, in 1980 and in 1981 by filling the role of the swing supplier, but to avoid the problems of the sharp cyclical swings which typify the lot of those able to sell primarily on a spot basis, long term contract business must be obtained. The United States can only be a long term supplier if we can sell competitively.

The world has moved from a situation of excess coal demand to excess coal supply. The rate of increase in coal traded on the world market has slowed perceptibly. Forecasts of coal demand, both short and long term, are being revised downward. A statement by the Financial Times in the February edition of the "Energy Economist" described the situtation in the short run:

> "The leap forward of 1979-80 was in substanatial measure a response to the Iranian oil crisis of early 1979 and the jump in oil prices which followed it. The great fuel oil-coal price differential which this produced led to the following reactions in Western and Far Eastern industrialized nations.
>
> . A short-term decision to convert utility boilers from oil-firing to coal firing where possible; to operate existing plant to make the best use of coal-fired plant and minimize oil burn; to rapidly convert large industrial users of oil to coal burning where this made clear economic sense, the most notable example being the international cement industry.
>
> . A longer-term decision by national governments, individual utilities and industries to concentrate on coal-firing when building new plant.
>
> It was the short-term decisions which produced the minor coal boom of 1979-80 and some subsequent slackening in the growth rate was inevitable - there is a limit to the amount of rapid conversion that can be carried out and it takes several years to bring totally new plant into operation. But this expected slackening of the growth rate has been accentuated by world industrial recession, which has reduced expected demand for electricity (emphasis added).
>
> The recession, coupled with the current reduction in real oil prices, will also serve to slow down coal's expected growth rate over the next few years."

These short run conditions have been felt in a the rate of growth in reduction in the demand for United States coals. In 1982 we will export no more than the 110 million tons exported in 1981. In 1983, our exports will be marginally lower than in 1982.

Overall demand for coal purchase is down because, in addition to the facts cited above:

- There is lower economic activity worldwide;
- Electricity growth in Europe and Japan is low or negative;
- Steel production is lower than in 1981, in some countries the steel industry is in a depression not a recession;
- Stockpiles of coal are at record highs.

Combine low coal requirements with an increase in coal availability in competing countries - South Africa and Poland - who have the ability to sell at far lower prices than does the United States, and it is clear why United States exports are not increasing in the short run.

The long run outlook is much more promising. Longer term decisions to convert to coal will mean a continued increase in coal demand and trade, but the long-run outlook is not quite as firm as was forecast one or two years ago due to lowered expectations of demand for electricity. To illustrate, the European Economic Community recently issued a forecast that pegged the 1990 coal demand of member nations at 350 million metric tons in 1990 and 500 million metric tons by 2000. This is a 3 percent and a 14 percent reduction, respectively, from forecasts issued two years ago. The most recent IEA review pegs the annual rate of growth of coal use in IEA member countries at 3.8 percent through 1990, down from the annual 4.4 percent growth rate forecast two years ago.

But at the same time that the rate of increase in demand is showing some signs of slowing down, new coal production capacity, dedicated to export and with supporting transportation and port infrastructure, is being rapidly developed in Canada, South Africa, Colombia and Australia. Production and transportation costs are lower in these countries than in the United States.

Thus, the world coal market is becoming more competitive, and the United States must hold down costs and take advantage of every efficiency to remain a leader in the world energy market.

As was mentioned earlier in this statement, cost efficiencies must be gained throughout the coal chain from the coal mine to the ultimate consumer. This statement, however, focuses on three areas affecting the weakest segment, the transport of coal:

- The construction of new loading facilities at coastal ports;
- Deepening selected harbors and channels on the East, West and Gulf coasts to allow these same economies of scale; and
- The use of alternative shipping technologies to achieve ecnomies of scale in shipping.

II. Improvements in Coal Loading Capacity at U.S. Ports

The sudden increase in demand for U.S. coal overseas described in the previous section was not without problems, the most visible of which was the long line of vessels off the East coast waiting to take on coal. This short-run problem was caused by the lack of capacity at coastal port coal loading facilities and by the fact that most of the facilities which are in use are designed for shipping blended grades of metallurgical coal, are without ground storage capacity, and are designed for a throughput level somewhat lower than was required.

However, in a very short period, numerous measures were taken by railroads, coal companies and private terminal operators to increase effective port loading capacity. Concurrently, plans have been made and are underway to increase coal loading capacity by building new terminals with ground storage capability at ports on the East, Gulf and West coasts.

Over the last two years, temporary use of loading facilities designed for other bulk commodities, use of mid-stream barge to ship loading, utilization of older less-efficient piers, use of alternative transportation routes, and managerial efficiencies achieved by the various parties in the coal export chain, have effectively doubled existing coal loading capacity. In the last quarter of 1981, coal was loaded for export at an annual rate of over 120 million short tons, or at just over 80 percent annual port capacity.

Implementation of an advanced vessel registration system accomplished in the spring, 1981, at both Baltimore and Hampton Roads has significantly reduced both the number or waiting vessels and the average wait time for the vessel in port as illustrated in the following table:

VESSEL EXPERIENCE AT HAMPTON ROADS

(on selected dates)

Date	Number of Vessels Wait at Port (End of Month)	Average Wait Time (During Month)
November 1982	102	25 days
February 1981	136	42 days
July 1981	67	50 days
November 1981	41	12 days
December 1981	40	7 days
July 1982	15	6 days

SOURCE: Vessels Waiting - "Coal Trade Report" H. Clarkson & Co.
Average wait time - W.J. Browning and Company

These short term measures have significantly reduced the c.i.f. dollar cost of United States coals abroad by reducing demurrage and ocean transportation costs. Coupled with market conditions, they have also temporarily solved the capacity problems. For example, although the piers in the Baltimore area fully booked through November 1982, there have been no new registrations since early July. Waiting time to register at Norfolk is minimal and ports in the Gulf and West coast are utilized at only 50 percent of capacity.

This short term situation in which there is a small margin of capacity at coastal loading ports could change rapidly. To correct the lack of sufficient modern coal loading capacity on a long term basis, private industry is rapidly expanding that capacity through construction of new coal piers or by the expansion of existing piers.

The first of these new piers the Curtis Bay Company's 12-million-ton facility at Baltimore was dedicated in early August.

Other East coast projects underway include:

- The expansion of pier 124 in Philadelphia from 5 million to 10 million tons annual capacity;
- The Consolidation Coal Company's renovation of the Canton Coal piers in Baltimore, a 10-million-ton per year addition; and
- A.T. Massey Coal Company's facilities at Newport News with 12 million tons of annual capacity and at Charleston, South Carolina, planned for 2.5 million tons of annual capacity.

On the Gulf coast, existing capacity, including midstream loading capacity, is estimated to be 47.5 million tons; 69 million tons of new capacity underway; and planned capacity of 73.5 million tons. Projects under construction include:

- The expansion of McDuffie Island in Mobile from 9 million to 14 million annual tons;

- The expansion of the Electro-coal Terminal in New Orleans from 8 million to 12 million tons, and
- The expansion of the International Marine Terminal, also in New Orleans from 4 million to 15 million tons.

On the West coast, existing capacity is estimated from 3 million to 6 million annual tons; capacity underway at 14 million annual tons and announced new capacity is 79 million tons.

By the end of 1983, sufficient loading capacity will be on line to eliminate vessel demurrage, to reduce completely wait time after registration and to assure prompt delivery of coal on the time schedule most convenient to customer and coal supplier alike.

SUMMARY OF U.S. COAL LOADING CAPACITY

(Planned for Completion by 1985)

	Existing	Underway	Planned	Total
		(Million Tons)		
East Coast	91.9	61.5	167.0	320.4
Gulf Coast	47.5	69.0	73.5	190.0
West Coast	4.0	14.0	79.2	97.2
Great Lakes	18.7	-	-	18.7
Total	162.1	144.5	319.7	626.3

SOURCE: Maritime Administration, U.S. Dept. of Transportation

It is clear that private industry initiatives are working to permanently solve the port capacity problem. It is equally as obvious that not all the planned and announced capacity will come on line within the planned time frame or will not be built for the throughput originally planned. Some projects will never advance beyond the announced and planning stage. But there is now enough capacity on line, and close to completion, to handle forecast demand and more for several years in the future. And, given the advantages of long term planning, which are made possible by long term supply contracts, port loading capacity will not be a problem in future years.

III. Deep Draft Channels Are Necessary To Ensure Our Competitiveness In The World Coal Market

The capacity to load coal efficiently must be combined with the ability to ship it economically. The economies of scale in using larger colliers for long-distance ocean transport are evident as recent estimates of unit ton costs for various coal hauls illustrate. The costs (not charter rates) of moving a ton of coal from Hay Point (Australia) to Rotterdam is $24.50 per ton in a 40,000 dwt vessel but only $13.60 per ton in a 120,000 dwt vessel. A shipment of coal to Rotterdam from Richards Bay in a 40,000 dwt costs $14.10 per ton but in a 120,000 dwt — $8.20. (Data derived from H. P. Drury, and included in the attachments to this statement.)

Average daily cost figures for the capitalization and operating cost of bulk vessels show that a 40,000 dwt vessel costs almost twice that of a 120,000 dwt vessel, a cost difference so compelling that the world coal fleet is being rapidly transformed. Today, an estimated 65 percent of coal in world trade is hauled in vessels of the 35,000-80,000 dwt class, and only 7 percent of the coal is hauled in vessels of 100,000 dwt or more. By 1985, an estimated 25 percent of world coal trade shipments will be in these larger colliers, and by 1990, 44 percent of the tonnage may be hauled in these vessels.

Our competitors in the coal trade — Canada, South Africa, Australia — already have deep-draft access to many of their coal-handling ports and are developing greater loading capacity at those ports. Many coal importing nations either have, or have access to, deep draft ports. The United States, however, does not have one coal port on the East or Gulf coasts with draft greater than 45 feet (equivalent to a 100,000 dwt vessel) and has only one port area — Los Angeles, Long Beach — on the West coast with a 50 foot draft. This places coals from the United States, already the highest priced on the world market, at an even greater competitive disadvantage.

If the United States is to capture a full share of the growing international coal market, we must orient selected ports toward larger vessels and develop our own deep-draft port capability. If we cannot provide deep port access in the very near future, large colliers will be forced to call for the most part on Australian and South African ports for years to come under the long-term contractural arrangements that typify the coal trade.

I would like to emphasize that time is short. Foreign coal buyers must secure supplies years in advance and they are making decisions now based on a negative perception that the U.S. has no firm policy regarding deep draft port development for coal exports. The Congress can dispel this notion by acting quickly to pass legislation authorizing the construction, on an expedited basis, of deeper channels at our coastal ports.

It is clear the Congress does recognize the importance of channel improvements to the future of the coal trade as well as to the future of other foreign trade. More than two dozen bills have been introduced in the 97th Congress to authorize and to accelerate channel improvements. It is important here to point out that not all ports requiring a deeper channel require a channel that exceeds 45 feet. Much of the work that needs to be done is improvement of channels to handle Panamex size vessels. Legislation authorizing construction of deeper draft channels is thus equally important for coal and other trade through these ports.

The coal industry recognizes that the cost of this construction work will be high. An estimate made over a year ago by the Corps of Engineers showed that cost of dredging Hampton Road, Mobile and New Orleans to 55 feet would cost more than 1.5 billion dollars. The same report states that costs of improvements in New York would be approximately $140 million and in Baltimore, $278 million. These costs have undoubtedly escalated over the past year. Other ports, not named in our listing, are equally as deserving of monies for needed port and harbor improvements whether those improvements be for channels greater or less than 45 feet. Obviously, the traditional methods of full financing of these improvements through general treasury funds are questionable because of the large amounts of financing required.

With this constraint in mind, and in recognition of the importance of making improvements at an early time, the National Coal Association, over a year ago, voted to support the concept of a federal-private cost sharing arragement to fund the construction costs of these projects. The concept of non-federal financing of waterway projects has generated a great deal of debate and disagreement. For example, what share should be bourne by the federal government, what by the private sector? Which entity has responsibility for annual operation and maintenance costs? Should O&M costs be shared? What form should user fees take? Should they be port specific or uniform among all ports? How should the private share be funded? The debate and the differences of opinion on each of thes issues has caused substantial delays in passing needed legislation. Therefore, to allow private interests to proceed with channel improvements as soon as possible at those ports with traffic to justify the improvement, NCA supports legislation which would:

- Give generic authorization to coastal ports to dredge channels to deeper depths where current and expected traffic will put the project on an economically sound basis; and
- Authorize the port or locality to collect user fees to pay for the full cost of channel improvements. These fees should be:
  - port specific in nature, not a uniform nationwide fee;
  - based on cargo tonnage;
  - applied equally to all cargoes traveling in vessels of the same size class and using the same depth of water; and
  - annual operation and maintenance costs should be retained by the federal government.

The NCA position represents support for a change in waterway policy. However, it is important to recognize that the federal government has been involved in the development and maintenance of our coastal harbors since the formation of our nation. Billions of dollars of private sector investments have been made in establishing existing on-shore facilities and in developing the commercial traffic patterns which now exist. The nation benefits from this economic activity and trade. The benefits do not accrue to the industry using the port or to the port city or region alone. The federal government has a responsibility to maintain the port channels at already authorized depths, for the use of which, the private sector made billions in good faith investments over the years.

We recongize that the rules of the road have changed, and that new projects should be a joint responsibility of the federal government and the user. But existing projects should have the benfit of continued federal maintenance and financial support. Our foreign trade results in the collection of several billion dollars in customs receipts which are direct revenue for our federal government. Consideration should be given to the use of funds from this source to pay for annual port operation and maintenance charges if other than general revenue is required.

But, if non-federal interests are to pay, at least in part, for improvements to our waterway system, the non-federal interests should be assured that port and inland waterway improvements will be accomplished within a reasonable time. Private interests should not be asked to pay for a project for which both costs and time are indeterminate due to delays caused by government regulations and review procedures. Accordingly, any proposal calling for non-federal financing of a portion of port and harbor improvements or for inland waterway improvements should include a mechanism for expediting permitting procedures and the environmental review process for both groundside facilities and for the dredging of harbors and channels.

IV. The Use of Alternative Shipping Techonologies to Achieve Economies of Scale in Shipping

There are alternative ways of loading large colliers which are being developed due to the delay in authorizing improvement of channel depths at the coastal ports.

For example, coal is now being shipped through the Great Lakes to be reloaded at Sept Isles in 150,000 dwt vessels. It has been proposed that the Delaware Bay, where natural depths are 65 feet, be used as a transfer point to large vessels for coal loaded at Philadelphia, Baltimore, and Hampton Roads. Another project under consideration would utilize barges loaded with coal and then stowed in a specially designed vessel. These vessels would be loaded offshore and would not face draft restrictions.

We are able to utilize the larger colliers in some cases. But, these new shipping technologies do not obviate the requirement for legislation authorizing port improvements for several reasons:

- There will be enough demand for shipping in larger colliers that conventional loading methods will be required;
- Dredging is not always for very deep draft. As pointed out, many ports have need to be dredged to handle Panamex vessels.

Individual ports should be allowed to decide if deeper channels are requried. The decision should be based on sound economic analysis, not solely on political strength. This is the reason behind our belief that ports should be authorized to dredge their harbors to deeper depths and to pay for such work through port specific user fees, if the project makes sound econmic sense.

Mr. Chairman, in summary, the condition of our coal ports is vital to the future coal trade of our nation. The condition of these ports, was bad, has improved and will be even better in the future. We will have the best ports with the help of the Congress in taking the steps outlined above. The private sector has and continues to do its part and we are willing to do more. It is now the Congress' turn.

Senator **Warner**. We thank you very much, Mr. Joseph. You have been very helpful and as always you are a recognized expert, and if you have got any insights as to how we can solve this legislative dilemma——

Mr. **Joseph**. No, sir, I'm sorry, I don't. That's your side of the table.

Senator **Warner**. All right. The next witness will be Mr. Milton Copulos, energy policy analyst of the Heritage Foundation.

We welcome you back again.

Mr. **Copulos**. Thank you, Senator. Good morning. I will try and summarize my testimony as briefly as possible.

STATEMENT OF MILTON R. COPULOS, DIRECTOR, ENERGY STUDIES, THE HERITAGE FOUNDATION

Mr. **Copulos**. Earlier this week, Senator, I was in Chicago working on the National Petroleum Council's study of the Third World oil development, and I was struck by one fact. That was the extent to which the staggering escalation in oil prices that has taken place over the last 9 years has wrecked economic havoc in countries outside the United States. We are more fortunate in having our own domestic supplies of energy, but for many other countries in the world that are less fortunate, this terrible, terrible increase in oil prices has led to economic chaos.

Last night as I was watching the evening news and the tragic assassination of the President-elect of Lebanon I was also struck by the extent to which our inordinate reliance on Mideastern oil throughout the world has created a terribly unstable political situation and how this threatens the security not only of the United States but of the rest of the free world as well, and in looking at those and thinking about those factors, it occurred to me that there is a role for the United States to play here which goes beyond the mere economic considerations.

We are on the road to what could lead to our becoming an enormously stabilizing force throughout the world. In the industrialized countries, use of U.S. coal could greatly reduce the threat of rampant inflation and economic stagnation which has so often accompanied sharp escalations in oil prices.

For the lesser developed countries, it would help to prevent the drain of hard currency that goes to pay import bills, and in the underdeveloped world, the availability of cheaper fuel in the form of U.S. coal can literally mean the difference between economic survival and bankruptcy.

In serving to help delink the world's economic future from the uncertainties of the Middle East, U.S. coal exports could provide a critical element of stabilization in the world political arena. Moreover, they could strengthen the U.S. role as leader of the free world. The increased economic ties which would evolve from America's role as a coal supplier would also help to increase our political bonds. Further, the U.S. coal would act to shield its users from economic shocks that frequently occur in the face of sharp oil price escalation. In doing this, it would enhance the potential for orderly economic growth throughout the world.

To do this we need to take a number of steps here in the United States, and I echo what Mark just said. Among the most important would be to expedite the renovation of America's coal transportation infrastructure. Both rail systems and ports must be prepared for a new volume of traffic.

Transportation charges account for the lion's share of the cost of a delivered ton of coal, and therefore more than any other factor will determine the marketability of U.S. coal abroad. Railroads must be upgraded to carry unit trains. Ports must be deepened. Slurry pipelines must be built. If these improvements in the infrastructure are not made, I am afraid that the United States will lose its golden opportunity to other nations with a keener eye for the future. Even today Australia, Canada, and even the Soviet bloc countries are moving aggressively into the world coal market. If the United States demonstrates it is unwilling to be the supplier to the rest of the world, others are anxious to step into the role.

In this time of budgetary constraint, it is evident, of course, that the Federal Government cannot, in fact should not, move to subsidize the needed improvements. Rather what is needed is the commitment to remove the regulatory barriers that prevent the private sector from doing so.

One area in which these barriers have been particularly onerous is in regard to the dredging of ports and harbors. The responsibility of dredging ports, of course, has traditionally rested with the Federal Government through the Corps of Engineers. The trouble is that, as we all know, the leadtime currently anticipated for some projects can be as much as 21 years. Not only is that far too long to allow the United States to take advantage of the opportunities in the world coal market, it is flatly ludicrous.

Fortunately, it is increasingly evident that the private sector stands ready to move into the breach and assume responsibility for rennovating America's ports and harbors. The only thing they need from their Government is for it to step aside and allow them to do so, and also to indicate to the rest of the world that America truly wants to export its coal.

The second thing that is needed is that during the last 4 years, or excuse me, it is now 6 years, under the previous administration, support for American coal export was ambivalent at best. Most of the people I spoke with say there is a real question in their mind as to whether or not we really want to sell the fuel. Well, knowing that we need these things is not the same as knowing how to get them, and we have one suggestion we would like to make that might perhaps present an approach which is consistent with the administration's philosophy, consistent with the philosophy of the committee, and can move to expedite the dredging we all know is needed, and this is through the creation of something we called a coal export zones and coal export investment companies.

Essentially what the coal export zones would be is an infratructure through which we could fast track the rennovation of our ports and harbors. The goal of the fast track would be to allow a port to obtain all necessary approvals within a period of 2½ years. There would not, however, be an exemption from compliance with environmental standards under the law. Rather what would happen is we would have a series of deadlines, goals, so on.

Coal export zones would also act as the licensing body for the coal export investment companies. These companies would be joint ventures formed for the express purposes of rennovating port and harbor facilities or other elements of the coal transportation infrastructure. They rather than the Corps of Engineers would be in charge of dredging. Partner in these joint ventures could include a variety of firms, including foreign investors. One of the reasons we include foreign investors is that we hope that the coal export investment company would act as a magnet for foreign capital. It would give foreign investors the opportunity not only to participate in financing projects, but also to obtain equitable positions and be active, take an active role. They would also be able to invest in upriver improvements if they so desired.

The financing would be provided through bonds which would then be paid through the user fees. The user fees would be determined by each port on the basis of the actual cost involved. Where ports were authorized, already have authorizations, they could issue industrial development bonds and the coal export investment companies would be permitted to use that vehicle as well. Financing, as I said, would be tied to use fees. Coal export investment companies would also be granted a Federal charter. However, the charter would carry no privileges. Rather its purpose is to serve as an indication of Federal sanctions—something considered quite important in overseas markets. This is a statement of Federal willingness to participate in the process. They have the effect of legitimizing the coal export investment companies in the eyes of overseas participants.

The expanding U.S. port and harbor facilities presents a tremendous opportunity for the private sector initiative consistent with the Reagan philosphy. One of the Nation's most critical problems is the growth of the notion that the Government should do everything for us. By creating an environment where the private sector can step into a role Government traditionally performs, and enhance the world's political and economic security to boot, the Congress can make a major contribution in helping to eliminate this attitude of seeing the Government as the source of every solution.

More important, it will achieve an actual, a major national goal and do so without requiring mass infusion of Federal dollars or creation of even more complex and burdensome regulations.

According to the latest NCA projection, the United States could be exporting more than 300 million tons of coal by the year 2000. To achieve this ambitious goal, however, the Nation must have a port and rail system that these volumes would require. Should the United States fail to put them in place, it may lose a golden opportunity.

Thank you.

[The prepared statement of Mr. Copulos follows:]

Testimony
of
Milton R. Copulos
Director of Energy Studies
The Heritage Foundation

From the earliest days of the industrial revolution through the end of the Second World War, coal played a dominant role in the U.S. energy mix. Following the war's end though, increased competition from cheap oil and antural gas, widespread labor strife, and a growing sense of concern over the environment combined to sharply curtail demand for America's most abundant energy resource. As a result, the U.S. coal industry entered a prolonged period of decline that threatened its very existence. With the rise of OPEC, and the accompanying oil shocks of the 1970's, however, " King Coal " gained a new lease on life. Once again, domestic firms began to look to coal to fuel American industry. But that was not all. Foreign buyers, seeking to shed the crushing burden of oil import bills promised to open up a whole new market overseas as well.

The potential coal exports hold for improving our balance of payments, sparking new investment, and creating new jobs is enormous. The National Coal Association believes that U.S. production could rise to as much as 1.4 billion tons annually by 1995. Fueling much of this gain would be the new exports overseas, which the House Merchant Marine and Fisheries Committee estimates could increase the U.S. share of the export market from its current 18% to as much as 38% by the end of this century. If realized, these overseas sales would generate an additional $14 billion annually in foreign currency earnings. Of even greater importance is the contribution an increased reliance on American coal would make towards enhancing the political and economic stability of the world as a whole.

From the earliest days of the industrial revolution through the end of the Second World War, coal played a dominant role in the U.S. energy mix. Following the war's end though, increased competition from cheap oil and natural gas, widespread laobr strife, and a growing sense of concern over the environment combined to sharply curtail demand for America's most abundant energy resource. As a result, the U.S. coal industry entered a prolonged period of decline which threatened its very existence. With the rise of OPEC, and the accompanying oil shocks of the 1970's however, " King Coal " gained a new lease on life. Not only was there renewed interest in the domestic use of coal, but foreign buyers, seeking to shed the crushing burden of oil import bills promised to open up a whole new market overseas as well.

The potential coal exports hold for improving our balance of payments, sparking new investment, and creating new jobs is enormous. According to the House Merchant Marine and Fisheries Committee, the U.S. could readily increase its share of the world coal export market from its current 18 % to as much as 38 % by the end of this century. If realized, these new exports would generate foreign currency earnings of as much as $14 billion annually. More important though, is the fact that the widespread use of U.S. coal would significantly reduce world demand for crude oil, thereby helping to both domestic and world security in a number of ways.

First, to the extent that the world is released from its dependence on Middle East oil, it is also freed from the uncertainties that are an outgrowth of that region's instability. Secondly, the emergence of America as a major coal supplier will serve to strengthen economic bonds between

In the industrialized countries, the increased use of U.S. coal would greatly reduce the threat of rampant inflation and economic stagnation which has so often accompanied sharp escalations in oil prices. For the Lesser Developed Countries, it would help to prevent the drain of hard currency so vital to the growth of their nascent industries. For the Underdeveloped world, the availability of cheaper energy in the form of U.S. coal might well mean the difference between economic survival and bankruptcy. For all nations of the world, the availbility of U.S. coal could help to eliminate the potential for energy blackmail by producing states.

In serving to help delink the world's economic future from the political uncertainties of the Middle East, U.S. coal exports could provide a critical element of stabilization to the world political arena.Moreover, they could strengthen the U.S. role as leader of the Free World. The increased economic ties which will evolve from America's role as a coal supplier will also help to increase political ties.Further, since U.S. coal will act to shield its users from the economic shocks that result from sudden, sharp oil-price escalations, the potential for orderly world economic growth will ben enhanced as well. To achieve these goals, however, the U.S. must take certain steps to insure that its coal exports reach their full potential. While progress has been made in this direction, much remains to be done.

Among the most important steps to take would be to expedite the rennovation of America's coal transportation infrastructure. Both rail systems and ports must be prepared for the new volume of traffic they will have to accomodate.

Transportation charges account for the lion's share of the cost of a delivered ton of coal, and therefore, more than any other factor can determine the degree to which American coal will be able to compete in the world market. Railroads must be able to carry unit trains, ports must be deep enough for super-colliers, slurry pipelines must be built. If these improvements in the infrastructure are not made, America might loose its golden opportunity to other nations with a keener eye for the future.Even today, Australia, Canada, and even some Soviet Block countries are moving aggressively into the world coal market. If the U.S. demonstrates that it is unwilling to be the world's coal supplier, there is little doubt that they will be more than anxious to step into that role.

In this time of budgetary constraint, it is evident, of course, that the federal government cannot, and in fact should not move to subsidize the needed improvements. Rather, what is needed is a committment to removing the legal and regulatory barriers that prevent the private sector from doing so. One area in which these barriers are particularly onerous is in regard to the dredgin of ports and harbors.

The responsibility for dredging ports and harbors has traditionally rested with the federal government. Federal funds have financed port construction, and the Army Corps of Engineers have been responsible for coordinating the work. The trouble is that the lead time currently anticipated for such projects, estimated at twenty-one years, is far too long to allow the U.S. to take advantage of the opportunity to move into the world coal market. Disregarding for the moment, whether a twenty-one year lead time would be justifiable under any circumstances, there is little question that in the current environment it is, to say the least, ludicrous.

Fortunately, it is increasingly evident that the private sector stands ready to move into the breach and assume responsibility for rennovating America's ports and harbors. The only thing they need from the government is for it to stand aside and allow them to do so, and to indicate that America truly wants to export its coal. The reason it is necessary to have a clear signal sent overseas about America's willingness to enter the coal export market is that under the Carter administration, support for such an initiative was ambivilent at best. Although there was much rhetoric, little was done to make such trade possible, and much was done to hinder coal production in general. What is needed now is to indicate clearly the renewed national committment to coal exports, and the federal government's sanction of private efforts towards that end. How can this goal be achieved?

One way would be through a program that allowed the creation of Coal Export Zones and Coal Investment Trading Companies. Coal Export Zones would be areas allowed to take advantage of a " fast tracking" process similar to that approved in House committee. The basic elements of the fast tracking would include a limitation on re-opening decided issues, and a series of deadlines for various environmental reviews. The goal of the " fast track " would be to allow a port to obtain all necessary approvals within a period of two and one-half years. There would not, however, be an exemption from compliance with environmental standards under the law.

Coal Export Zones would also be act as the licensing body for Coal Export Investment Companies. These companies would be joint ventures formed for the express purpose of rennovating port and ahrbor facilities, or other elements of the coal transportation infrastructure. They, rather than the Corps of

Engineers would manage dredging projects. Partners in these joint ventures could include mining companies, railroads, barge lines, coal buyers, including foreign purchasers, or other commercial entities.

The Coal Export Investment Company is intended to act as a magnet for foreign capital. It would give foreign investors an infrastructure through which to channel their investments, and an opportunity to obtain an equity position in the ports. They would also be able to invest in " up-river " improvements if they so desired.

The financing would be provided through bonds which would then be repaid through user fees. Where ports were authorized to issue Industrial Development Bonds, the Coal Export Investment Company would be allowed to do so as well. Financing through bonds tied to user fees will make it in the foreign investors interest to insure that coal moves through the port.

The Coal Export Investment Companies would also be granted a federal charter. Although the charter would carry no federal priviledges, it would serve as an indication of federal sanction, something considered quite important in overseas markets. The charters would have the effect of legitimizing the Coal Export Investment Companies in the eyes of many foreign participants.

Expanding U.S. port and harbor facilities presents a tremendous opportunity for a private sector initiative that is consistent with the philosophy Ronald Reagan brought to Washington. Time and time again, he has stated that one of our nation's most critical problems is the growth of the notion that the government should do everything for us. By creating an environment in which the private sector can step into a role that government has traditionally performed, and enhance the world's political and economic security to boot, the Congress can make a major contribution in helping to eliminate that notion. More important, it would have achieved a major national goal, without requiring a massive new infusion of federal dollars, or the creation of even more complex and burdensome regulations.

According to the Draft Report of the Inter-Agency Coal Working Group, the U.S. could be exporting from 475 to 565 million tons of coal by the year 2000. To achieve this ambitious goal, the nation must have the port facilities and rail system these volumes will require. Should the U.S. fail to move now to put them in place, it may lose a golden opportunity .

Senator **WARNER**. Thank you, Mr. Copulos. You have been very helpful throughout the long period that we have been jointly discussing this question.

Again, I will have to defer questions because we have an extensive witness list.

We will now hear from William D. McDonough, project manager, Wheelabrator-Frye, Hampton, N.J.

STATEMENT OF WILLIAM D. McDONOUGH, PROJECT MANAGER, WHEELABRATOR-FRYE, INC.

Mr. **McDONOUGH**. Good morning, Mr. Chairman. My name is William McDonough, and I am a project manager at the corporate headquarters of Wheelabrator-Frye.

We at Wheelabrator-Frye appreciate the opportunity to be heard on our concept for an innovative means of exporting steam coal from the United States in greater quantities and at enhanced prices in the world market.

Prior to going to the subject I wish to address I would like to emphasize that we do not propose our concept should be looked upon as an alternative to the much-needed dredging of our major harbors. Dredging of some of our ports is clearly essential to providing the United States the ability to more effectively compete economically not only in coal export but in world trade in general.

Early in 1980 we first became interested in the opportunities we perceived to exist in the export of U.S. steam coal if means could be found to utilize very large ships, both bulk carriers and tanker-type vessels. These large ships, particularly tankers, were then, and still are, available in excess in the world.

As we began developing our concept, the demand for U.S. steam coal began to grow in leaps and bounds. The high demand quickly led to the very congested situation the Nation faced in the export of coal through 1980 and well into 1981. Many actions resulted from that situation. New export facilities are coming on line. Management actions by existing coal terminal operators and unfortunately a great drop in demand have largely solved the port congestion issue for the present. However, it is our belief that the predicted coal demand for later in this decade and certainly in the 1990's will come to pass.

Further, we believe that a fair share of this demand will fall to the United States as a stable supplier with vast reserves of the high-quality coal that will be in demand. This share will be enhanced by any actions we can surmount that will improve the price competitive position of our coal.

Wheelabrator-Frye is proposing an innovative way to add to the U.S. export capacity, eliminate future bottlenecks at existing ports, and provide a lower ocean shipping rate per unit shipped. In effect, it results in new coal handling terminals without the need for new harbors, piers, or waterfront real estate. The system is called Cosmos—Coal Slurry Marine Overseas System. The innovative feature of this system is the utilization of a relatively short-distance coarse coal slurry transport to effectively short circuit congestion at ports and to avoid limitations in ship size—two factors that previously adversely impacted the price of U.S. steam coal exports.

The concept can be implemented quickly and it is more environmentally acceptable. The company believes it may well be able, in selected area, to avoid the time-consuming environmental impact statement which is an absolute requirement of port dredging projects. By using ships considerably larger than those generally in use in the U.S. ports, it can provide a lower ocean transport cost, thereby making U.S. coal more competitively priced. Importantly, the concept will guarantee preferred access to the terminal's participants, insuring prompt, efficient loading and avoidance of demurrage charges.

The concept has two basic configurations--slurry load and dry unload; and the other configuration is slurry load and slurry unload. Each configuration would utilize a new export terminal. The export terminal would consist primarily of a ground storage site located a few miles inland of the seashore, remote from heavily populated areas and existing ports. These locations will require adequate rail and/or barge service to receive coal through the existing infrastructure from the mines.

These sites will be similar to ground storage coal transshipment facilities existing in various places in the United States and elsewhere in the world. The notable differences are a slurry capability that results in a coarse coal slurry being inserted into piplines for transfer to 140,000 to 250,000 deadweight ships moored several miles offshore and the lack of a need for a pier and ship loader system.

The first configuration utilizes the largest ships in use in the coal trade, about 140,000 deadweight tons. It entails offshore loading ships with coal slurry at a single point mooring buoy and dry coal unloading, that is, conventional unloading, at a foreign port. It is this configuration that offers the fastest implementation, requires no new or different facilities at the import site, and is thus the primary subject of our initial engineering efforts.

The second configuration is essentially an imitation of the international shipment of oil. It involves very large ships, 200,000 deadweight tons or greater, being loaded offshore by a coarse coal slurry at a single point mooring buoy, and entails slurry unloading from a similar buoy installation with slurrying water received from the receiving facility directly to a consumer facility with water separation capability at that site.

Both configurations require water separation on the ship as part of the loading cycle. In the first case, it is to preclude loss of cargo carrying capacity and to prepare the coal for dry offloading.

In the second case, it is only to preclude the loss of cargo capacity due to the transport of significant weights of water.

A brief system description will follow. Steam coke, washed and sized, would be transported from the mine to a near-shore ground storage facility by conventional transport, that is, railroads and/or barges. The facility would be located remotely from existing coal export ports.

Slurry capability would be at the ground storage facility. The slurry loading rate would be approximately 2,500 tons dry coal per hour, the transport liquid being fresh water. The coal slurry would be a coarse coal slurry approximately 50 percent by weight, 50 coal, 50 water.

The slurry would be pumped through an underground and submarine piping system to a single point mooring several miles offshore where very large ships can be moored.

The slurry would be delivered to the vessels from pipeline via the floating mooring and floating hoses. Water separation would occur on the vessels with water returned to the slurrying facility for continued use. Water would be in a closed cycle analogous to a conveyor belt. Water separation would result in a coal cargo sufficiently low in moisture content to insure adequate transportation economy and customer acceptability.

To this point, both configurations are virtually identical. The slurry load/dry unload configuration continues as follows. The 140,000 deadweight tons or greater converted bulk carriers would be capable of slurry loading and conventional dry unloading. These ships would have drafts 50 to 65 feet.

Conventional unloading would occur alongside the piers at existing port facilities in consuming nations.

The alternative configuration of the slurry load/slurry unload continues as follows. Very large converted tanker-type vessels would be capable of slurry loading and slurry unloading. These ships would be up to 250,000 deadweight tons or greater coal carrying capacity with a draft of 65 to 75 feet.

Slurry unloading from the ship to the submarine pipeline would be accomplished via a single point mooring, using slurrying water received from the receiving facility. Water separation would occur at the receiving facility with water recycled to the ship for continuation of slurry unloading. Water separation would result in coal with approximately 6 to 8 percent surface moisture.

Dry coal would be conveyed to storage at the receiving facility, ideally located with a large electric-generating station. The excess to onsite requirements would be transshipped by utilizing foreign infrastructure.

The capacity of a single export facility of either configuration would be about 15 million tons per year. This is brought about by the loading rate of 2,500 tons per hour and a conservative availability factor of about 65 percent for open sea loading operations.

Implementation of the proposed system does not require the development or introduction of any new technologies. The technologies involved are all in use in various applications, with the longstanding iron ore slurry loading of ships in New Zealand being the most analogous.

Coarse coal slurry transport is currently in use by a major U.S. coal company to remove coal from its underground mine and deliver it some miles away to a preparation plant. Similarly, a Japanese mine has been functioning since 1970. A German installation operated successfully for several years and was terminated a year or so ago when the coal seam was depleted.

The technical effort required to implement a Cosmos installation is essentially that of integrating existing technologies to a site-specific locale. We are currently involved in preliminary negotiations with some other major corporations toward the formulation of a specific project for later in the 1980's.

There exists within the U.S. coal industry a certainty that U.S. steam coal will enjoy a fair share of the world market. Coal demand and a need to insure diverse and stable supplies by world buyers will insure this. It is the opinion of Wheelabrator-Frye that the proposed concept can enlarge our export capacity and enhance our share of the market by making our coal more competitively priced.

I greatly appreciate the opportunity to briefly describe our concept. I have provided a somewhat expanded, more thorough discussion of our Cosmos project for the record.

Thank you, sir.

[The prepared statement of Mr. McDonough follows:]

STATEMENT OF WILLIAM D. McDONOUGH, WHEELABRATOR-FRYE INC. BEFORE THE SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES OF THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SEPTEMBER 16, 1982

Mr. Chairman and Members of the Committee:

My name is William McDonough and I am a Project Manager at corporate headquarters of Wheelabrator-Frye. We at Wheelabrator-Frye appreciate the opportunity to be heard on our concept for an innovative means of exporting steam coal from the United States in greater quantities and at enhanced prices in the world market.

Prior to going to the subject I wish to address I would like to emphasize that we do not propose our concept should be looked upon as an alternative to the much needed dredging of our major harbors. Dredging of some of our ports is clearly essential to providing the United States the ability to more effectively compete economically not only in coal export but in world trade in general.

Early in 1980 we first became interested in the opportunities we perceived to exist in the export of U.S. steam coal if means could be found to utilize very large ships, both bulk carriers and tanker type vessels. These large ships particularly tankers were then, and still are, available in excess in the world. As we began developing our concept the demand for U.S. steam coal began to grow in leaps and bounds. This high demand quickly led to the very congested situation the nation faced in export of coal through 1980 and well into 1981. Many actions resulted from that situation; new export facilities are coming on line, management actions by existing coal terminal operators and unfortunately a great drop in demand have largely solved the port congestion issue for the present. However, it is our belief that the predicted coal demand for later in this decade and certainly in the 1990's will come to pass. Further, we believe that a fair share of this demand will fall to the United States as a stable supplier with vast reserves of the high quality coal that will be in demand. This share will be enhanced by any actions we can surmount that will improve the price competitive position of our coal.

Wheelabrator-Frye is proposing an innovative way to add to the U.S. export capacity, eliminate future bottlenecks at existing ports and provide a lower ocean shipping rate per unit shipped. In effect, it results in new coal handling terminals without the need for new harbors, piers, or waterfront real estate. The system is called COSMOS - COal Slurry Marine Overseas System. The innovative feature of this system is the utilization of a relatively short-distance coarse coal slurry transport to effectively "short-circuit" congestion at ports and avoid limitations in ship size, two factors that previously adversely impacted the price of U.S. steam coal exports.

The concept can be implemented quickly and it is more environmentally acceptable. The company believes it may well be able, in selected areas, to avoid the time consuming Environmental Impact Statement which is an absolute requirement of port dredging projects. By using ships considerably larger than those generally in use in U.S. ports, it can provide a lower ocean transport cost thereby making U.S. steam coal more competitively priced. Importantly, the concept will guarantee "preferred access" to the terminal's participants, ensuring prompt, efficient loading and the avoidance of demurrage charges.

The concept has two basic configurations:

- o slurry load/dry unload, and
- o slurry load/slurry unload.

Each configuration would utilize a new export terminal. The export terminal would consist primarily of a ground storage site located a few miles inland of the seashore, remote from heavily populated areas and existing ports. These locations will require adequate rail and/or barge service to receive coal through the existing infrastructure from the mines. These sites will be very similar to ground storage coal transshipment terminals existing in various places in the U.S. and elsewhere in the world. The notable differences are a slurry capability that results in a coarse coal slurry being inserted into pipelines for transfer to 140-250,000 DWT ships moored several miles offshore and the lack of a need for a pier and ship loader system.

The first configuration utilizes the largest ships currently in use in coal trade (about 140,000 DWT bulk carriers). It entails offshore loading ships with coal slurry at a single point mooring buoy and dry coal unloading; that is, conventional unloading at a foreign port. It is this configuration that offers the fastest implementation, requires no new or different facilities at the import site and is thus the primary subject of our initial engineering efforts.

The second configuration is essentially an imitation of the international shipment of oil. It involves very large ships (250,000 DWT or greater) being loaded offshore by a coarse coal slurry at a single-point mooring buoy and entails slurry unloading from a similar buoy installation, with slurrying water received from the receiving facility, directly to a consumer facility with water separation capability at that site.

Both configurations require water separation on the ship as part of the loading cycle. In the first case, it is to preclude loss of cargo carrying capacity and to prepare the coal for dry off-loading. In the second case, it is only to preclude the loss of cargo capacity due to the transport of significant weights of water.

Brief system descriptions follow:

- Steam coal, washed and sized, would be transported from mine to a near-shore ground storage facility by conventional transport, i.e., railroads and/or barges. The facility would be located remotely from existing coal export ports.
- Slurry capability would be at the ground storage facility. The slurry loading rate would be approximately 2,500 tons dry coal per hour; the transport liquid being fresh water (brackish would be acceptable if no chlorides). The coal slurry would be a coarse coal slurry, approximately 50/50 percent by weight.
- The slurry would be pumped through an underground and submarine piping system to a single-point mooring several miles offshore, where very large vessels can be moored.
- The slurry would be delivered to the vessel from pipeline via the floating single-point mooring and floating hoses.
- Water separation would occur on the vessel with water returned to the slurrying facility for continued use. (Water would be in closed-cycle analogous to a conveyor belt.) Water separation would result in a coal cargo sufficiently low in moisture content to ensure adequate transportation economy and customer acceptability.

To this point, both configurations are virtually identical. The slurry load/dry unload configuration continues as follows:

- 140,000 DWT or greater converted bulk carriers would be capable of slurry loading and conventional dry unloading. These ships would have drafts of 16.5 to 20 meters (55 to 65 feet).
- Conventional dry unloading would occur alongside piers at existing port facilities in consuming nations.

The alternative configuration of the slurry load/slurry unload system description continues as follows:

- Very large, converted tanker-type vessels would be capable of slurry loading and unloading. The ships would be of 250,000 deadweight tons (DWT) or greater coal-carrying capacity, with a draft of 20 to 23 meters (65 to 75 feet).
- Slurry unloading from ship to submarine pipeline would be accomplished via a single-point mooring using slurrying water received from the coal receiving facility.
- Water separation would occur at the receiving facility with water recycled to the ship for continuation of slurry unloading. Water separation would result in coal with approximately 6 to 8 percent surface moisture.
- Dry coal would be conveyed to storage at the receiving facility, ideally colocated with a large electric-generating station. The excess to on-site requirements would be transshipped by utilizing foreign infrastructure.

The capacity of a single export facility, of either configuration would be about 15 million tons per year. This is brought about by the loading rate of 2500 tons per hour and a conservative availability factor of about 65% for open sea loading operations.

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I greatly appreciate this opportunity to briefly describe our concept. I have provided a somewhat expanded, more thorough discussion of our COSMOS project for the record.

Thank you.

COSMOS

INNOVATION IN COAL TRANSPORT

Introduction

The energy situation in the world faced during the decade of the Seventies resulted in actions throughout the free world to reduce its dependence on OPEC oil. Many nations heeded the indicators early in that decade and commenced efforts to reduce their oil requirements. Those nations which did not heed these warnings had the message brought to them more emphatically in the last portion of the decade with the further rapid and continuing rise in prices of OPEC oil. Furthermore, the demonstrated unstable nature of large oil-producing countries has made it clear to all free world nations that their energy demands of the future must be provided for by some more stable and assured supply. Now, early in the decade of the Eighties, we see the need for expanded use of coal as an energy supply to be essential. The result in 1980 and 1981 was seen as a great increase in demand for steam coal worldwide and for the USA it, constituted a new business, that of steam coal export.

The magnitude of the growing demand for steam coal world-wide has been the subject of many reports and predictions. And now in mid 1982 the lethargic coal market coupled with the glut of oil has caused a significant lessening of the worlds attention to coal. Nevertheless, many conversions and new construction of coal plants throughout the free world are underway or planned. The demand for steam coal late in this decade, and later, is very great. The share of this forthcoming market that will fall to the United States is also the subject of equally as many documents. It is clear that the demand will be huge and the U.S.A share can a be many-fold increase over past years. The size of the U.S.A. share will be largely determined by our ability to place U.S. coal competitively in the world marketplace. It is not the purpose herein to add to the predictions of demand, or to assess those of others. It is stipulated that a huge market exists in the not too distant future. Wheelabrator-Frye Inc. is attempting to find the way to enhance the competitive posture of U.S. steam coal in the world market and thereby ensure a growing share of this market for the U.S.A.

In the United States, the sudden large growth in foreign demand for our steam coal experienced in 1980 and 1981 is well recognized and documented. A major impediment in meeting this demand became abundantly clear late in 1980 and early 1981. This impediment was the congestion existing at U.S. coal export ports. With the recognition of this constraint, a plethora of activity was observed in announcements for alleviating the problem by improving and expanding current export port facilities, and an abundance of totally new facilities were announced. Many of these have fallen by the wayside in the current "soft" market situation. All of this activity had as its basic objective the enhancement of the U.S. share in the steam coal market by improving the price competitive posture by the elimination, or at least the reduction, in the large demurrage costs that were being experienced.

Before the coal strike in the Spring of 1981 these demurrage costs had reached the astronomical levels of $15 - $22 per ton in worst cases. After the strike, demand began to lessen as a result of stockpiles and reduced industrial growth resulting from the world depression. Also, some long overdue management action by the railroads, who control our major export facilities, put some semblance of order into the export situation. As a result demurrage has not again reached pre-strike levels - yet. However, it is fully expected that the problem will arise again with its adverse impact on U.S. coal exports. This must be avoided. What the U.S.A needs is an increase in steam coal export; not future impediments.

It is axiomatic that increased exports will result in more jobs, a more favorable balance of payments and serve to strengthen the geopolitical position of the United States. In spite of these economic and political truths it is unlikely that the previous impediments to U.S. steam coal exports will be meaningfully eliminated within the next 5 to 10 years. (Only a very few of the announced new facilities are really going to happen.) These impediments include port congestion caused by limited shore-side coal storage capacity, limited water depths, a lack of rail infrastructure of the quality necessary to handle unit-train shipments of coal to the ports in the quantities that can be required, and a highly fractionated and intensely competitive coal industry essentially new to the steam coal foreign market. These supply-side realities make it difficult from the foreign buyer's viewpoint to predict with reasonable assurance that solutions to these problems will be likely in a timely manner. We at Wheelabrator-Frye Inc. share these buyers' concerns.

There are a few port projects, not dependent upon dredging, in progress. Clearly these will serve to ease any future congestion problem, and reduce future demurrage charges for the smaller ships, i.e. those capable of using our restricted depth channels. However, none of these projects, in my opinion, will contribute significantly to a strategic solution to making large quantities of U.S. steam coal available at competitive prices. This opinion is based principally on facts that center around channel dredging.

To clarify this it is necessary to have an appreciation for maximum ship sizes capable of full loading in ports that have various channel depths. Also it should be recognized that there are some ships in the world that are abnormal in that they have a larger maximum load at a lesser draft than the average ships. A generalization that applies to the majority of ships is as follows:

Channel Depth	Max. Ship Size
45 ft (13.7m)	80,000 DWT
42 ft (12.8m)	70,000 DWT
40 ft (12.2m)	60,000 DWT
38 ft (11.6m)	56,000 DWT
35 ft (10.7m)	50,000 DWT

The above channel depths correspond with the major harbors on the East and Gulf Coast that are candidates for coal exporting. It should be noted that only New York harbor and Hampton Roads enjoy the 45 foot depth. Hampton Roads, our major coal export port, is and has long been our primary metallurgical coal export facility and this can be expected to continue indefinitely. Accordingly, to take advantage of this "deep" harbor for steam coal export will entail significant new facilities, such have been announced and one (the A. T. Massey facility at Newport News) is well into construction.

New facilities will require new and large capital investment which will have to be paid back by a relatively higher "cost to load per ton" charge on exported coal than the moderate cost experienced in long paid-off met coal facilities. This cost, coupled with a ship size far below what the world is moving to, namely 140-150,000 DWT and larger colliers, will not make U.S. steam coal competitively priced in the market.

Dredging is looked at as a means of correcting this problem to some degree. However, dredging projects for East or Gulf Coast continue to be mired in a legislative donneybrook in our Congress. If past experience is any guide, this should result in even greater delays than those experienced in years gone by. The intense battling for position by various port interests that existed under the Carter Administration is now more thoroughly confused as a result of the Reagan Administration's stated position that they want to add to the problem by eliminating federal funding for dredging. Regardless of who pays, the total cost estimate for various coal dredging projects now is in the $5.0 billion range. All of these factors make it prudent to look to a U.S. steam coal trade for years to come at current restricted channel depths. This will preclude the U.S. from the shipping economies associated with the larger ships - ships that the rest of the world will be utilizing and thereby further undercutting U.S. prices.

This is neither a treatise on dredging, its pro's or con's, nor the political factors involved in achieving dredging. Rather it is an attempt to describe a means of overcoming all limitations to ship size associated with the dredging issue. The sole objective is to find the way the United States can more favorably compete in the world steam coal market.

The Concept

Wheelabrator-Frye is proposing an innovative way to add to U.S. export and foreign import capacity, eliminate future bottlenecks at existing ports and provide a lower ocean shipping rate per unit shipped. In effect, it results in new coal handling terminals without the need for new harbors, piers, or waterfront real estate. The system is called COSMOS - COal Slurry Marine Overseas System. The innovative feature of this system is the utilization of a relatively short-distance coarse coal slurry transport to effectively "short-circuit" congestion at ports and avoid limitations in ship size, two factors that previously adversely impacted the price of U.S. steam coal exports.

The concept can be implemented quickly and it is more environmentally acceptable in selected areas. The company believes it may well be able, in selected areas, to avoid the time consuming Environmental Impact Statement which is an absolute requirement of port dredging projects. By using ships considerably larger than those generally in use in U.S. ports, it can provide a lower ocean transport cost thereby making U.S. steam coal more competitively priced. Importantly, the concept will guarantee "preferred access" to the terminal's participants, ensuring prompt, efficient loading and the avoidance of demurrage charges.

The concept has two basic configurations: (See Figure 1)

o slurry load/dry unload, and
o slurry load/slurry unload.

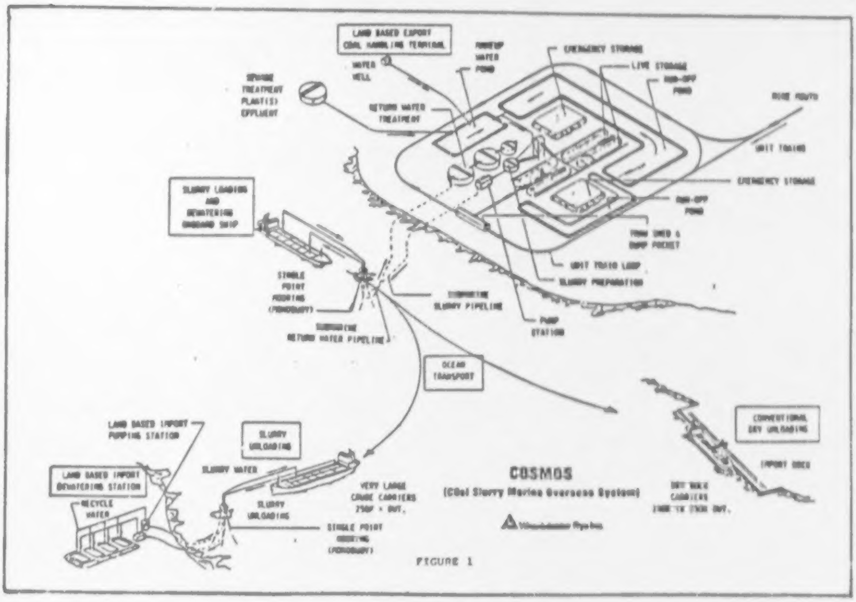

LAND BASED EXPORT COAL HANDLING TERMINAL
WATER WELL
MAKEUP WATER POND
EMERGENCY STORAGE
LIVE STORAGE
RUN-OFF POND
RIVER ROUTE
SEWAGE TREATMENT PLANT(S) EFFLUENT
RETURN WATER TREATMENT
UNIT TRAINS
EMERGENCY STORAGE
RUN-OFF POND
SLURRY LOADING AND DEWATERING ONBOARD SHIP
TRAIN SHED & DUMP POCKET
UNIT TRAIN LOOP
SLURRY PREPARATION
SINGLE POINT MOORING (MONOBUOY)
SUBMARINE SLURRY PIPELINE
PUMP STATION
SUBMARINE RETURN WATER PIPELINE
OCEAN TRANSPORT
CONVENTIONAL DRY UNLOADING
LAND BASED IMPORT PUMPING STATION
SLURRY UNLOADING
IMPORT DOCK
SLURRY WATER
LAND BASED IMPORT DEWATERING STATION
RECYCLE WATER
SLURRY UNLOADING
VERY LARGE CRUDE CARRIERS 250M + DWT.
COSMOS
(COal Slurry Marine Overseas System)
DRY BULK CARRIERS
SINGLE POINT MOORING (MONOBUOY)

FIGURE 1

Each configuration would utilize a new export terminal. The export terminal would consist primarily of a ground storage site located a few miles inland of the seashore, remote from heavily populated areas and existing ports. These locations will require adequate rail and/or barge service to receive coal through the existing infrastructure from the mines. These sites will be very similar to ground storage coal transshipment terminals existing in various places in the U.S. and elsewhere in the world. The notable differences are a slurry capability that results in a coarse coal slurry being inserted into pipelines for transfer to 140-250,000 DWT ships moored several miles offshore and the lack of a need for a pier and ship loader system.

The first configuration utilizes the largest ships currently in use in coal trade (about 140,000 DWT bulk carriers). It entails offshore loading ships with coal slurry at a single point mooring buoy and dry coal unloading; that is, conventional unloading at a foreign port. It is this configuration that offers the fastest implementation, requires no new or different facilities at the import site and is thus the primary subject of our initial engineering efforts.

The second configuration is essentially an imitation of the international shipment of oil. It involves very large ships (250,000 DWT or greater) being loaded offshore by a coarse coal slurry at a single-point mooring buoy and entails slurry unloading from a similar buoy installation, with slurrying water received from the receiving facility, directly to a consumer facility with water separation capability at that site.

Both configurations require water separation on the ship as part of the loading cycle. In the first case, it is to preclude loss of cargo carrying capacity and to prepare the coal for dry off-loading. In the second case, it is only to preclude the loss of cargo capacity due to the transport of significant weights of water.

Brief system descriptions follow:

- Steam coal, washed and sized, would be transported from mine to a near-shore ground storage facility by conventional transport, i.e., railroads and/or barges. The facility would be located remotely from existing coal export ports.
- Slurry capability would be at the ground storage facility. The slurry loading rate would be approximately 2,500 tons dry coal per hour; the transport liquid being fresh water (brackish would be acceptable if no chlorides). The coal slurry would be a coarse coal slurry, approximately 50/50 percent by weight.
- The slurry would be pumped through an underground and submarine piping system to a single-point mooring several miles offshore, where very large vessels can be moored.
- The slurry would be delivered to the vessel from pipeline via the floating single-point mooring and floating hoses.
- Water separation would occur on the vessel with water returned to the slurrying facility for continued use. (Water would be in closed-cycle analogous to a conveyor belt.) Water separation would result in a coal cargo sufficiently low in moisture content to ensure adequate transportation economy and customer acceptability.

To this point, both configurations are virtually identical. The slurry load/dry unload configuration continues as follows:

- 140,000 DWT or greater converted bulk carriers would be capable of slurry loading and conventional dry unloading. These ships would have drafts of 16.5 to 20 meters (55 to 65 feet).

- Conventional dry unloading would occur alongside piers at existing port facilities in consuming nations.

The alternative configuration of the slurry load/slurry unload system description would continue as follows:

- Very large, converted tanker-type vessels would be capable of slurry loading and unloading. The ships would be of 250,000 deadweight tons (DWT) or greater coal-carrying capacity, with a draft of 20 to 23 meters (65 to 75 feet).
- Slurry unloading from ship to submarine pipeline would be accomplished via a single-point mooring using slurrying water received from the coal receiving facility.
- Water separation would occur at the receiving facility with water recycled to the ship for continuation of slurry unloading. Water separation would result in coal with approximately 6 to 8 percent surface moisture.
- Dry coal would be conveyed to storage at the receiving facility, ideally colocated with a large electric-generating station. The excess to on-site requirements would be transshipped by utilizing foreign infrastructure.

The capacity of a single export facility, of either configuration would be about 15 million tons per year. This is brought about by the loading rate of 2500 tons per hour and a conservative availability factor of about 65% for open sea loading operations.

System Technology

Implementation of the proposed system does not require the development or introduction or any new technologies. The technologies involved are all in use in various applications, with the long-standing iron ore slurry loading of ships in New Zealand being the most analogous.

Coarse coal slurry transport is currently in use by a major U.S. coal company to remove coal from its underground mine and deliver it some miles away to a preparation plant. Similarly, a Japanese mine has been functioning since 1970. A German installation operated successfully for several years and was terminated a year or so ago when the coal seam was depleted.

The technical effort required to implement a COSMOS installation is essentially that of integrating existing technologies to a site-specific locale.

System Implementation

Significant progress has been made over the past year and a half. Upon completion of the conceptual design and project definition sufficient preliminary engineering was accomplished to verify initial assumptions. These efforts have led us to the project formulation phase which is described later in this paper. Engineering efforts to date include:

- Generic site layout and flow sheets.
- Preliminary investigation of various potential sites on East Coast, Gulf Coast and West Coast.
- Preliminary engineering required for the single-point mooring buoys, non-site specific.
- Feasibility and preliminary engineering to convert existing ships, both bulk carrier and tanker types, to the service intended.

- Identification of pumping requirements and determination of available pumps capable of the service intended.
- Determination of particle size distribution to suit pumping requirements and capabilities.
- Completion of a significant dewatering test program to verify capability to sufficiently dewater onboard ship with minimal investment in ship conversion.
- Completion of various coal testing by British Hydromechanical Research Association to confirm predictions of particle size degradation associated with up to 20 miles of pipe transport.
- Determination that suitable operating procedures can be developed to accommodate unanticipated shutdowns of an operating system.
- Determination that suitable operating procedures can be developed to clear any line pluggage that may occur, and
- Rough order of magnitude capital and operating costs.

Commercial Aspects

Having sufficiently confirmed the technical and economic feasibility of the proposed concept, Wheelabrator-Frye Inc. is now seeking the establishment of a firm project. This is required to lead to the necessary acquisition of commitments to use the facility and to lead to financing of detailed engineering and construction.

The steps currently in progress are basically two-fold:

- Enter into a joint venture or similar agreement with a shipbuilder or a shipping corporation that will make available on a long-term basis converted or new ships dedicated to this service. This arrangement will be designed to expand in size to accommodate subsequent installations in various parts of the world.

- Enter into a joint venture or similar arrangement with one or more coal exporting companies or traders who are committed to utilization of the facilities. Initially this is being limited to those interested in exporting U.S. coal, but will be expanded subsequently to include coal export from anywhere in the world.

It is intended that the coal slurry marine terminals will be privately financed, owned and operated. They will afford "preferred access" to the coal suppliers and shippers who are equity participators with Wheelabrator-Frye Inc. The facilities will not be available to ships in general.

The economic studies conducted to date have been based upon a COSMOS facility competing with new steam coal export facilities. Long-standing existing major coal export facilities will continue to be mainly involved in their historic operation as metallurgical coal export facilities.

A comparison of new conventional export facilities with a COSMOS facility reveals a large degree of commonality in the shore site. Receipt and ground storage features are essentially identical, with a COSMOS facility having the added advantage of not having to be located in an existing harbor or industrialized area. The conventional facility will require shiploaders, piers and pierside dredging. These parts of that facility are replaced by a slurrying station, pumps, pipelines, a single-point mooring buoy and a water storage and treatment site. The economic balance of the two appears close from a capital point of view. Operation and maintenance costs, on a per-ton loaded basis also appear comparable.

With the two types of facilities having comparable capital and operating costs, the cost benefit associated with utilizing the larger ships and the absence of demurrage costs should result in a more competitive posture for U.S. steam coal shipped via a COSMOS facility.

Summary

There exists within the U.S. coal industry a certainty that U.S. steam coal will enjoy a fair share of the world market. Coal demand, and a need to insure diverse and stable supplies by world buyers, will insure this. It is the opinion of Wheelabrator-Frye Inc. that the proposed concept can enlarge our export capacity and enhance our share of the market by making our coal more competitively priced than conventional facilities.

Senator **WARNER**. I certainly wish to express appreciation for not only your appearance today, but your company for showing some initiative to come up with a new idea. It may well be that the new ideas will take over if we can't figure out how to solve the problem.

Thank you. We will now have Ms. Seale, commissioner, New York City Department of Ports.

Thank you for joining us today.

Ms. **SEALE**. It's my pleasure. I appreciate the opportunity to be here.

I have prepared remarks which I have submitted for the record, and I will just confine myself to highlighting a few points very briefly.

STATEMENT OF LINDA W. SEALE, COMMISSIONER, NEW YORK CITY DEPARTMENT OF PORTS AND TERMINALS

Ms. **SEALE**. I think, Mr. Chairman, that you in your conversation with Mr. Mark Joseph earlier this morning really highlighted the key as to what is necessary of Congress and the administration working together is to establish the framework of law I believe was your phrase within which the market forces can work. That is exactly what needs to be done.

We need a dramatic acceleration in the process by which dredging projects are approved, and I believe that your reference to the market forces and pulling them into play is precisely the justification that allows us to dramatically short circuit the project—the process that has existed to date—because once local governments are putting their own money into projects and they are making effective economic value decisions on dredging projects, the Army Corps of Engineers no longer has to go through the elaborate cost/benefit process that was necessary and appropriate when there was no true market test.

You also talked in your discussion with Secretary Morris about whether or not it was necessary to study the impact of user fees before we proceeded. I obviously can't speak for all other ports, but

I believe that all the ports which are interested in deep draft channel for bulk export, channels below 45 feet, have expressed an acceptance of the concept of local cost recovery, and I do not believe that for projects deeper than 45 feet that it is necessary to do a study of what the impact will be before we go forward because it is so dramatically clear and it has been evident in the comments and statements made by ports interested in the coal business that they can and are prepared to absorb a substantial share of the cost of those channels based on their analysis of the economics of moving to the large draft ships.

Let me talk just for a moment about the project that we are planning in New York. We have been working for about the past 2 years in trying to develop a coal export terminal proposal within New York City.

New York Harbor has one of the best channels and one of the best harbors in the United States. We, therefore, have an opportunity to dredge a deeper channel at lower cost than any other port. This is somewhat upset by the fact that we had some extraordinary challenges and drawbacks on land by virtue of being the Nation's largest city and trying to develop a facility of this type in a large, heavily populated urban area so that I think for us a deep channel is especially important.

We have extraordinary line costs which will be more than upset we believe by the fact that we can achieve very extraordinary ocean savings from a channel deeper than what anybody else would be able to accomplish. The project that we are looking at should offer substantial economic benefits for New York and the Northeast region and for the coal development mining areas, and we believe is important for the entire country.

In New York, we will be generating more than 1,000 construction jobs during a 2- or 3-year period. We will be putting several hundred people to work in operating jobs on a permanent basis, and we will be generating several million dollars a year in direct revenues to the city. We will also be providing a major development and growth opportunity for the railroads—Conrail, the CSF System, and Norfolk Southern all have the opportunity to service New York.

A terminal such as we are proposing, 20-million tons fully developed capacity, will generate directly economic activity or more than $1 billion a year once it is in full operation. I mean that is just the price of coal times the number of tons that would be moving, and we believe that without a facility like the one we believe we can develop, that the opportunity for that economic activity, most of which will in fact take place in the coal mining regions and the areas between Appalachia and New York as we put miners and railroad workers back to work, that opportunity may be lost if we are not able to develop it in New York simply because the United States may not get that business if we do not develop a terminal which is capable and able to handle it and offer the coal efficiently and competitively in the deepest ships.

We have a very ambitious timetable for this project. We began work 2 years ago. We are currently requesting proposals from developers. They are due back October 8. We believe that we will have one or more serious proposals from consortiums of private firms who are prepared to build, own, and operate the facility.

The city is prepared to begin work on the EIS probably in about January 1983, looking for opening of a facility by early 1986. We are prepared to do our part to keep this timetable. We are concerned that Congress needs to do its part in reform and improvement of the dredging regulatory process in order to insure that we all, not just the New York region obviously, but all ports in the Nation as a whole have an opportunity to benefit from this U.S. growth opportunity.

[The prepared statement of Ms. Seale follows:]

TESTIMONY

COMMISSIONER LINDA W. SEALE
NEW YORK CITY
DEPARTMENT OF PORTS AND TERMINALS
BEFORE
THE ENERGY AND MINERAL RESOURCES SUBCOMMITTEE
OF
THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
SEPTEMBER 16, 1982

Mr. Chairman, members of the Committee, I appreciate this opportunity to speak to you today on a matter of vital importance to the Port of New York. During the past two years, we in New York have worked closely with this Committee and with other concerned members of both houses of Congress in attempting to develop a national policy on dredging. During that same period of time, we have developed a substantial proposal for a coal export terminal in New York that will be one of the most ambitious economic development projects in recent decades. The future of that project largely depends on enactment of legislation that will allow us to deepen the channel in New York Harbor in as short a time as possible.

The lengthy process of federally mandated reviews that must be undertaken before a channel deepening project can proceed is a costly and unnecessary obstacle to port improvements. Costs rise rapidly, and the endless reviews cost this nation billions of

DOLLARS IN DIRECT COSTS AND IN LOST OPPORTUNITIES. PORT IMPROVEMENTS AROUND THE COUNTRY ARE STYMIED IN PART DUE TO OVERREGULATION AT THE FEDERAL LEVEL. THE DEVELOPMENT OF COAL PORTS, CONTAINER TERMINALS, OIL AND GRAIN TERMINALS, ALL DEPEND ON THE CONSTRUCTION OF DEEP CHANNELS AND THEIR MAINTENANCE COSTS, AND THEREFORE DEPEND ON REFORM OF THE CORPS' CONSTRUCTION PROCESS.

ENACTMENT OF LEGISLATION TO REFORM AND EXPEDITE THE CHANNEL CONSTRUCTION PROCESS IS IMPERATIVE ALSO IF PORTS ARE GOING TO PAY FOR THEIR OWN DREDGING PROJECTS THROUGH USER FEES. ELABORATE FEDERAL COST-BENEFIT ANALYSIS IS UNNECESSARY IF LOCAL INTERESTS, THROUGH DECISIONS TO COMMIT THEIR OWN FUNDS, DECIDE THAT A PROJECT IS COST EFFECTIVE. WITHOUT LEGISLATION REFORM, FEDERAL DELAYS WILL RAISE THE COSTS OF LOCALLY FUNDED PROJECTS.

IN PREVIOUS TESTIMONY TO OTHER COMMITTEES OF THE CONGRESS, WE IN NEW YORK CITY HAVE EXPRESSED OUR OPPOSITION TO ANY NATIONAL SYSTEM OF USER FEES, A SYSTEM WHICH COLLECTS MONEY FROM THE PORTS ON A NATIONWIDE BASIS AND REDISTRIBUTES THOSE FUNDS TO OTHER PORTS. ANY SUCH SYSTEM IS DISCRIMINATORY AND SELF-DESTRUCTIVE. ANY NATIONAL USER FEE WILL TAX LARGE PORTS LIKE NEW YORK TO PAY FOR DREDGING IN OTHER PORTS.

ON THE OTHER HAND, A SYSTEM WHICH ENABLES US TO KEEP USER FEES WITHIN THE PORT AND USE THEM FOR OUR OWN CHANNEL IMPROVEMENT WILL GIVE THE PORT OF NEW YORK AN ENORMOUS ADVANTAGE. WE CAN DEEPEN OUR CHANNEL TO A GREATER DEPTH AT A LOWER COST THAN ANY OTHER PORT ON THE EAST OR GULF COAST, CHARGE LOWER USER FEES AND ACHIEVE ENORMOUS ECONOMIES OF SCALE IN OCEAN TRANSPORTATION. THE

MATERIAL WE MUST DREDGE IS CLEAN AND CAN BE EASILY DISPOSED OF.

THESE ADVANTAGES, AS WELL AS NEW YORK'S SHORT SAILING TIME TO EUROPE LED US ABOUT TWO YEARS AGO TO BEGIN PLANNING A COAL EXPORT TERMINAL IN NEW YORK. AT THAT TIME, EUROPEAN DEMAND FOR U.S. COAL HAD SURGED AFTER THE REVOLUTION IN IRAN DEMONSTRATED THE INSTABILITY OF MANY OF THE MAJOR OIL PRODUCERS. ANOTHER INCREASE IN DEMAND IS LIKELY IN THE NEXT FEW YEARS BECAUSE OF THE CONTINUING INSTABILITY IN THE MIDDLE EAST. ENERGY CONSUMERS IN EUROPE AND THE MEDITERRANEAN, FEARFUL OF OVER-DEPENDENCE ON UNRELIABLE SUPPLIERS, HAVE TURNED INCREASINGLY TO U.S. COAL AS A STABLE, DEPENDABLE ENERGY SOURCE. IN FACT, MANY ARE COUNTING ON U.S. COAL FOR THEIR LONG-TERM ENERGY NEEDS.

WHILE OVERSEAS DEMAND HAS ABATED IN RECENT MONTHS BECAUSE OF LOW OIL PRICES AND STOCKPILING OF COAL, INDUSTRY EXPERTS BELIEVE, AND OUR OWN ANALYSIS CONFIRMS, THAT DEMAND WILL CONTINUE TO GROW STEADILY OVER THE NEXT TWO DECADES. MOST COUNTRIES IN WESTERN EUROPE HAVE ADOPTED COAL CONVERSION PLANS THAT THEIR OWN SOURCES OF COAL CANNOT SUPPLY. THIS DEMAND WILL FAR EXCEED THE EXPORT CAPACITY OF EXISTING COAL TERMINALS ON THE EAST AND GULF COASTS. NEW YORK HOPES TO EXPLOIT ITS KEY ECONOMIC ADVANTAGES TO DEVELOP A COAL TERMINAL IN ORDER TO MEET THIS OPPORTUNITY.

THE PROJECT OFFERS CONSIDERABLE ECONOMIC BENEFITS TO NEW YORK AND THE NORTHEAST. AT FULL CAPACITY, THE PROJECT WILL GENERATE OVER $1 BILLION IN DIRECT ANNUAL BUSINESS ACTIVITY FROM THE APPALACHIAN COAL MINES TO THE STATEN ISLAND WATERFRONT. FOR NEW YORK IT WILL CREATE 1,100 CONSTRUCTION JOBS AND 1,500 OTHER

CONSTRUCTION-RELATED JOBS DURING THE FIRST TWO YEARS OF CONSTRUCTION. THE COMPLETED FACILITY WILL PROVIDE BETWEEN 150 AND 200 PERMANENT OPERATING JOBS, AND APPROXIMATELY 200 MORE JOBS IN RELATED SERVICE INDUSTRIES IN THE NEW YORK REGION. IT WILL ALSO PUT HUNDREDS AND HUNDREDS OF COAL MINES BACK TO WORK. THE CITY WILL GAIN SEVERAL MILLION DOLLARS A YEAR IN RENT FROM THE TERMINAL OPERATOR.

IN REGIONAL TERMS, THE PROJECT ALSO OFFERS THE RAILROADS, WHICH WILL LINK THE MINES TO NEW YORK, AN IMPORTANT OPPORTUNITY TO CAPITALIZE ON THE COAL EXPORT MARKET. CONRAIL, CSX, AND THE NORFOLK SOUTHERN ALL ARE POTENTIAL COAL CARRIERS TO NEW YORK. CONRAIL DOES NOT SERVICE ANY OTHER PORTS WITH MAJOR COAL DEVELOPMENT OPPORTUNITIES. THE REVENUES GENERATED BY THE COAL TERMINAL WILL HELP TO STABILIZE CONRAIL, WHICH IS IMPORTANT TO THE ECONOMIC WELL-BEING OF THE NORTHEAST AND THE NATION.

THE KEY TO DEVELOPING A COAL PORT IN NEW YORK IS TO DESIGN A TERMINAL THAT MEETS ALL APPLICABLE ENVIRONMENTAL STANDARDS AND IS COMPATIBLE WITH A HEAVILY POPULATED URBAN SETTING. A CONVENTIONAL COAL TRANSSHIPMENT FACILITY IN NEW YORK CITY WOULD CREATE SUBSTANTIAL OPERATIONAL AND ENVIRONMENTAL PROBLEMS, SO WE HAVE DEVELOPED A DESIGN FOR A SHORT-DISTANCE COARSE COAL SLURRY PIPELINE. COAL WILL BE SHIPPED BY UNIT TRAINS FROM THE MINES IN APPALACHIA TO THE WESTERN EDGE OF STATEN ISLAND, WHERE IT WILL BE UNLOADED AT A RAIL YARD AND MIXED WITH WATER TO FORM COAL SLURRY. THIS MIXTURE WILL BE CARRIED BY UNDERGROUND PIPELINE ACROSS STATEN ISLAND TO THE HARBOR, WHERE THE COAL WILL BE DEWATERED AND LOADED ABOARD SHIPS. AT FULL CAPACITY THE TERMINAL WILL EXPORT

20 MILLION TONS OF COAL A YEAR.

THE CITY INTENDS TO SELECT A DEVELOPER FROM THE PRIVATE SECTOR TO BUILD, OWN, AND OPERATE THE TERMINAL. WE ESTIMATE THAT THE TERMINAL WILL COST $400 MILLION TO BUILD. A PRIVATE SECTOR COMMITMENT OF THIS MAGNITUDE WILL BE A MAJOR BOOST TO THE ECONOMY, AND CAN CREATE A CLIMATE FOR RENEWED INDUSTRIAL DEVELOPMENT IN NEW YORK CITY AND THE NORTHEAST.

THE CITY HAS ISSUED A REQUEST FOR PROPOSALS FROM DEVELOPMENT GROUPS INTERESTED IN UNDERTAKING THIS PROJECT. RESPONSES ARE DUE BY OCTOBER 8TH. SEVERAL MAJOR DEVELOPMENT GROUPS HAVE EXPRESSED SERIOUS INTEREST IN THE PROJECT, AND WE EXPECT TO RECEIVE ONE OR MORE SUBSTANTIVE PROPOSALS. WE HOPE TO SELECT A DEVELOPER BY THE END OF OCTOBER, AND TO NEGOTIATE A LETTER OF INTENT BY THE END OF THE YEAR.

DURING THE EARLY PART OF 1983, WE EXPECT TO BEGIN PREPARATION OF AN EIS AND TO BEGIN DETAILED ENGINEERING OF THE PROJECT FACILITIES. AT THE SAME TIME, THE DEVELOPER WILL BE WORKING TO OBTAIN LONG-TERM COMMITMENTS FROM COAL SUPPLIERS. OUR SCHEDULE CALLS FOR THE TERMINAL TO OPEN IN EARLY 1986.

TO MEET THIS SCHEDULE WE WANT PROMPT REFORM OF THE APPROVAL PROCESS FOR DREDGING PROJECTS AND RESOLUTION OF THE ISSUE OF HOW DREDGING PROJECTS WILL BE FUNDED IN THE FUTURE. NEW YORK, AS PART OF A CONSORTIUM OF PORT AUTHORITIES FROM AROUND THE COUNTRY, HAS ENDORSED THE PRINCIPLE OF LOCAL COST-SHARING FOR CHANNEL PROJECTS DEEPER THAN 45 FEET MLW. THE FAILURE OF CONGRESS TO TAKE ACTION ON THIS ISSUE THIS YEAR PUTS NEW YORK AND EVERY OTHER PORT

IN A VERY DIFFICULT POSITION, MAKING IT IMPOSSIBLE FOR ANY OF US TO PLAN INTELLIGENTLY. IT ALSO JEOPARDIZES THE OPPORTUNITY FOR THE UNITED STATES TO CAPTURE ITS PROPER SHARE OF THE COAL EXPORT MARKET; WE RISK LOSING OUT TO OTHER SUPPLIER NATIONS.

WE IN NEW YORK ARE DETERMINED TO KEEP OUR PROJECT ON SCHEDULE, WE ARE DOING OUR PART TO ENABLE THE UNITED STATES TO CAPITALIZE ON THE ECONOMIC OPPORTUNITY WHICH COAL EXPORTS REPRESENT. WE URGE THIS COMMITTEE TO DO EVERYTHING IT CAN TO MAKE SURE THAT CONGRESS DOES ITS PART AS WELL.

THANK YOU.

STATEN ISLAND COAL EXPORT TERMINAL:
SUMMARY OF FEASIBILITY STUDIES

AUGUST 1982

PREPARED BY:

THE CITY OF NEW YORK

DEPARTMENT OF PORTS AND TERMINALS

EDWARD I. KOCH
MAYOR

KAREN N. GERARD
DEPUTY MAYOR FOR ECONOMIC
POLICY AND DEVELOPMENT

LINDA W. SEALE
COMMISSIONER

INTRODUCTION

The New York City Department of Ports and Terminals has proposed a coal export terminal on Staten Island which can draw a private investment of more than $400 million to the city and become a benchmark for economic development in the Northeast Region.

The project -- the city's largest industrial development proposal -- will put city-owned land, including a deteriorated stretch of the waterfront, to productive, long-term use. Proposed to capture a major share of the coal export market for New York, it can create the kind of economic vitality that first shaped New York as a great port city. Designed within urban surroundings as a quiet, dust-free operation, it can set a new environmental standard for industrial development.

The coal terminal, conceived a year ago by Ports and Terminals, meets environmental and urban design standards and is technically feasible, according to studies recently conducted by private consultants. This report summarizes their findings, and outlines the overall importance of the project.

The first surge in demand for coal occurred after the revolution in Iran installed a virulently anti-Western regime in a major oil-producing country. Another increase in demand is likely in the next few years because of the continuing instability in the Middle East. Energy consumers in Europe and the Mediterranean, fearful of over-dependence on unreliable suppliers, have turned increasingly to U.S. coal as a stable, dependable energy source. In fact, many are counting on U.S. coal for their long-term energy needs.

While overseas demand has abated in recent months because of low oil prices and stockpiling of coal, industry experts believe that demand will continue to grow steadily over the next two decades. Most countries in Western Europe have adopted coal conversion plans that their own sources of coal cannot supply. This demand far exceeds the export capacity of existing coal terminals on the U.S. East and Gulf Coasts. Consequently, several ports are studying the feasibility of constructing or expanding these facilities. New York offers several key advantages over other ports.

WHY NEW YORK?

First, our natural deep water harbor requires much less dredging at far less cost than other ports. New York Harbor can be dredged to a depth of 68 feet -- which can accommodate the largest colliers available -- for $150 million. (See first map.) By comparison, it would cost $420 million to deepen Baltimore to only 50 feet, and $500 million to deepen New Orleans to 55 feet. Moreover, New Orleans would require an annual channel maintenance cost of $150 million, while New York would require only minimal maintenance dredging in the range of $5 million a year.

Low cost dredging offers major economic advantages for shipping coal. Since the cost of dredging will be recovered in the form of user fees or terminal charges, New York will be able to offer substantially lower fees than other ports. We estimate a user fee of 35 cents to 85 cents a ton in New York, compared to perhaps $3.00 a ton or more in New Orleans. A 68-foot draft in New York will allow 260,000 deadweight ton (DWT) ships to use the harbor, compared to the maximum 150,000 DWT ships that can use a 55-foot channel. The economies of scale of using larger vessels are reflected in lower ocean freight rates. At 68 feet, the port's ocean freight rate would be approximately $10.70 per ton, about $8 per ton cheaper than for a 55-foot draft ship and $10 per ton cheaper than a 45-foot draft ship.

New York also has the shortest sailing time to Europe of any East or Gulf Coast port - half a day shorter than Hampton Roads, nearly 2 days shorter than Baltimore, nearly 5 days shorter than New Orleans. This cuts the cost of ocean transportation by reducing the number of ships necessary to handle a given annual throughput.

New York can also save on rail costs by utilizing unit trains, the most efficient means of rail transportation, which other ports are not equipped to handle. Rail freight charges are estimated at $10 per ton, about $3 - $5 per ton less than at other ports. However, the ultimate rail rate will be subject to negotiation.

The combined savings on rail and ocean transportation rates are significant, and more than compensate for the cost of constructing a terminal in New York. These factors provide a powerful economic argument for building a coal export terminal in New York. The economic benefits for the city and the region are equally strong.

ECONOMIC BENEFITS

At full capacity, the project will generate over $1 billion in direct annual business activity from the Appalachian coal mines to the Staten Island waterfront. It will create 1,100 construction jobs and 1,500 other construction-related jobs during the first two years of construction. The completed facility will provide between 150 and 200 permanent operating jobs, and approximately 200 more jobs in related service industries. The city will gain several million dollars a year in rent from the terminal operator, the exact amount to be determined in negotiations.

In regional terms, the project also offers the railroads, which will link the mines to New York, an important opportunity to capitalize on the coal export market. Conrail, CSX, and Norfolk Southern all are potential coal carriers to New York. Conrail does not service any other ports with major coal development opportunities. The revenues generated by the coal terminal will help to stabilize Conrail, which is extremely important to the growth of the Port of New York and the economic well-being of the city and the region.

GENERAL DESCRIPTION

The coal terminal will receive coal from Appalachia at rail yards in northwestern Staten Island. From there, the coal will be mixed with water to eliminate dust and pumped through an underground slurry pipeline to the island's northeastern waterfront where it will be dewatered and loaded aboard ships for export to Europe. (See second map.)

FEASIBILITY STUDIES

The city retained a team of consultants to perform a series of feasibility studies of the proposed project. The studies include: 1) an engineering and economic feasibility analysis; 2) a preliminary environmental assessment, and 3) an urban design study. The engineering and economic study and the environmental assessment were prepared by Tippetts-Abbett-McCarthy-Stratton (TAMS), one of the country's leading consulting firms in the field of port development. Their subcontractor on the design of the coal slurry pipeline, Pipeline Systems Inc., has worked on 20 of the 30 slurry pipelines in the world, and is considered to be the world's leading firm in slurry pipeline design.

The urban design team includes two consultant firms, Buckhurst Fish Hutton Katz and Quennell Rothschild Associates, both experienced in designing industrial facilities for community compatibility. Quennell Rothschild Associates recently worked on a neighborhood revitalization program in Stapleton near the coal terminal site, and have demonstrated their sensitivity to the goals of the community.

The Department of Ports and Terminals conducted a marketing study to analyze the availability of U.S. coal and to compare it to the demand in Europe.

RAIL FACILITIES

Coal will be carried from the mines to Arlington in unit trains, which are trains dedicated exclusively to carrying the coal from the mines to the terminal, stopping only to load and unload, to refuel, to change crews, and for maintenance.

The trains will cross New Jersey on Conrail over the former Lehigh Valley line to Cranford, where they will turn onto tracks of the Staten Island Railroad Corporation (SIRC) and proceed to Arlington. (See third map.) Each train will be about 100 cars long and carry about 10,000 tons of coal. The Lehigh line is in good condition and can handle the additional capacity of the coal trains. The SIRC will require upgrading. The trains will cross the Arthur Kill Bridge, which also is in good condition, into Staten Island.

The Arlington rail yard measures about one mile from east to west and about one-third of a mile from north to south. Much of the site is undeveloped, with some residences and small commercial operations along its outskirts. Most of these private properties will have to be acquired and incorporated into the terminal.

The rail yard can move each train through the terminal in an average time of three hours. The process includes dumping the cars inside an enclosed building equipped with a dust collection system. From there, the coal will be conveyed in a closed system to storage ponds. (See fourth map.)

When the terminal is handling 10 million tons of coal per year, trains will arrive on the average of every 8.4 hours. At full capacity (20 million tons per year), trains will arrive on the average of every 4.2 hours.

SLURRY SYSTEM

The storage ponds will each hold 200,000 tons of coarse coal. Six ponds will be required, three at Stage I (5 million tons annual throughput) and three at Stage II (10 million tons). Two more storage ponds might be required at Stage III (20 million tons). (See fifth map.)

The ponds, each 450 feet square by 50 feet deep, can hold different types of coal. Coal is reclaimed from the ponds and pumped first to a pump station and then into a pipeline which will carry the coal seven miles to Clifton, on the Staten Island waterfront.

The slurry ponds will require an initial fill of 138 million gallons of water at Stage I, another 89 million gallons at Stage II, and another 67 million gallons at Stage III. This water can be provided by excess city water during off-peak usage periods over some months, assuming there is no drought. If city water is not available, there are several alternative sources, including water brought in from other areas by barge, abandoned well fields on Staten Island, well points after pond construction, or treated effluent from the Port Richmond sewage treatment plant.

The slurry system also requires 879 gallons of water per minute of operation to compensate for evaporation and other losses. This water will be obtained from one or more of the same sources.

The coal is pumped to Clifton through a seven mile long, 32-inch diameter, flanged pipeline. The route follows local roads from Arlington to the Staten Island Expressway, primarily along the median strip of the Expressway (at some points along the north service road). It follows the Staten Island Rapid Transit right-of-way as far as Bay Street, then along existing roads to the dewatering plant. The pipeline, lined with one inch of polyurethane for abrasion protection, will be buried approximately three feet under ground.

At the waterfront, the slurry enters the dewatering plant, where the water is removed to a surface moisture level of about ten percent. The plant, a 320-foot by 200-foot building, 90 feet high, will handle 4,000 tons per hour. A covered conveyor will load the coal onto ships or divert it to one of four surge silos for temporary storage.

Water removed from the coal is pumped back to Arlington through a 30-inch-diameter water return line buried adjacent to the slurry pipeline in the Staten Island Expressway median and the SIRT right-of-way. In the event that leachates build up in the water, it will be possible to pump the water from Arlington to the Port Richmond sewage treatment plant. This 2.8-mile pipeline also can carry treated effluent to Arlington as makeup water for the slurry system, if needed.

The section of the pipelines laid in the Staten Island Expressway median will be constructed during off-peak hours to minimize traffic disruption. The entire pipeline can be constructed in approximately six months.

WATERFRONT FACILITIES

The marine terminal comprising the coal dewatering plant and shipping pier will be located along the southerly section of the Clifton waterfront, just north of the Pouch Terminal. Most of the mile-long waterfront north of Pouch is vacant city-owned property dotted with deteriorating piers. A finger pier will be constructed in the area presently occupied by Piers 15-18. (See sixth map.)

The ships served at the pier will consist primarily of 100,000 to 260,000 deadweight ton vessels. The berth will be dredged to 70 feet below mean low water to accommodate the fully loaded vessels.

SYSTEM COSTS

Capital costs for the Staten Island system are estimated at $325 million for Stage I (5 million tons), an additional $70 million for Stage II (10 million tons), and an additional $20-65 million for Stage III (20 million tons). Operating costs are estimated at $30 million per year for Stage I, $39 million for Stage II, and $47 million for Stage III. These costs do not include the purchase price of the coal, the rail rate, or the ocean transportation charges.

The purchase price of coal will vary with the source of coal and specification of coal type. For this project, the price is estimated at $41 per ton. The corresponding rail charges are estimated at $10 per ton, for a total of $51 per ton to deliver the coal to Arlington. Operating costs to move the coal through the system are estimated at $2.40 per ton at full capacity.

Marine transportation costs are estimated at $11.30 per ton, which brings the total cost of coal delivery, excluding recovery of capital invested, to about $64.70 a ton in 1982 dollars for full terminal capacity, or $1.29 billion at 20 million tons per year.

ENVIRONMENTAL ANALYSIS

The preliminary environmental assessment concludes that the proposed project can be constructed to comply with all applicable standards for air, noise, and water quality, and that mitigation measures can be adopted to offset potential impacts on land use and aesthetics.

The form of the project has been largely dictated by the need to incorporate extraordinary protection measures within all systems and components. These features include wet storage of coal, maximum practical enclosure and handling system controls, noise enclosures and barriers, and environmentally sensitive site planning.

The project is not expected to result in any significant water or air quality consequences. The coal slurry system will not result in discharges to the environment, since slurry water will be continuously recycled. Accidental spills are very unlikely, and corrective action would prevent any significant impact. Proper design and careful inspection will ensure against leakage.

Increases in ambient levels of dust and suspended particulates will be negligible. Fugitive dust emissions will be much lower than the levels generated by typical coal terminals, since there will be no open storage of dry coal at either Arlington or Clifton. Dust from the planned operations at both sites can be effectively controlled.

Traffic volumes generated on Staten Island will produce no measurable impacts. Construction activity can be managed to minimize traffic impact. There may be traffic interruptions and noise impacts along the SIRC corridor in

New Jersey, where there are seven at-grade crossings. These can be mitigated by minor roadway widening and sound barriers, traffic signal modifications, rehabilitation of track rail, and possible use of an alternative rail route when the terminal approaches mid-capacity (8 - 12 million tons per year).

The Arlington rail yard includes a man-made tidal wetlands area, Goethals Bridge Pond, which has significant value as a feeding and mating site for waterfowl. The proposed rail facility will threaten the site's continued viability as a bird breeding habitat. To compensate, a nearby wetlands can be upgraded to give it comparable value. One possible site, Old Place Creek, is close to Goethals Bridge Pond and will be as accessible as the present wetland for birds. A second alternative, Saw Mill Creek, is further away but is adjacent to Prall's Island, a rookery location. Both sites have naturally meandering channels and good water quality and will make more attractive environments than Goethals Bridge Pond. By enhancing the value of the wetlands at either site, the city can achieve a net improvement in the quality of wetlands on Staten Island.

Noise levels are expected to meet the standards established by the New York City Noise Control Code and the Zoning Resolution. The project may produce some perceptible increases in noise levels in those areas at Arlington and at Clifton that are in closest proximity to the facilities, but these noise levels will be comparable to those created by existing activities, such as tugboats in the harbor. The layout at Arlington incorporates substantial environmental and urban design features to minimize noise. Most noise sources at Clifton can be controlled by enclosures or operational controls.

The development of the Arlington facilities will require the acquisition of residences and businesses. Approximately 100 jobs will be relocated on Staten Island, and 19 residences and a mobile home park will be acquired. In other respects, the project will not disrupt surrounding properties, which are largely industrial, commercial, or vacant. Nearby residential sites should not suffer reductions in land and property values since the community already has a mixed industrial-residential character. Some offset measures, such as a waterfront park or recreation facility, or other capital improvements to the community, may be desirable to offset any perceived adverse impacts.

At Clifton, no relocation will be necessary. The immediately adjacent uses are warehousing activities. There will be little impact on Bayley Seton Hospital, which is nearby. The waterfront facilities have been sited so that the most significant vistas and views from the area will not be affected.

Construction activities could have some transient environmental impacts, including noise from excavation and foundation erection, some spills of construction materials in water bodies near Arlington and Clifton, some traffic congestion at those two sites, and disruption of traffic along the Staten Island Expressway. Impacts on water quality will be short-term or sporadic and can be readily minimized if adequate precautions are taken. Construction management and working at off-peak hours will reduce traffic impacts.

URBAN DESIGN ANALYSIS

Arlington

The facilities at Arlington have been designed to minimize impacts on residential areas to the north and east. Buffer zones along South Avenue and south of Arlington Place will ensure that the facilities are some distance away from these residences. Earth berms will rise at least 15 feet above the top of the storage ponds, providing sound and visual screening and landscaping. Existing trees will be preserved where possible, and new evergreen trees will be planted to provide screening in the winter months. An open grassy strip will be located along South Avenue immediately across the street from existing homes. The outer slopes of the berms will be planted with grasses and shrubs for visual effect and erosion control. Wherever possible, work areas will be fenced with well-designed, long lasting, opaque walls rather than chain link fences.

A small pocket of residential use within the site that does not conform to the New York City Zoning Resolution for a manufacturing area will be acquired. Other nonconforming residences immediately adjacent on Morrow Street are likely to be seriously impacted by their proximity to the new development. Buffering techniques are still being considered to prevent adverse impacts.

The area immediately south of the project across Forest Avenue is a largely undeveloped tract containing areas of wetland vegetation and mature woodland. This area has potential as a site for public open space or other use consistent with local community needs. The urban design plan shows a park containing both active and passive recreational facilities as one possibility if the community so desires. Other projects are also possible.

Preliminary cost estimates indicate a range of $900,000 to $1.1 million for the landscape treatment of the terminal site itself and $1.75 million to $2 million for the park.

Clifton

The development of the coal export terminal will provide an opportunity to begin the redevelopment of a portion of waterfront which has been abandoned and deteriorated for many years.

The facilities at Clifton were sited in the southern part of the largely vacant waterfront site to be compatible with existing land uses. A new system of public, mapped streets is recommended, including an extension of Front Street to the north and extension of east-west streets toward the waterfront. This will improve access to the waterfront and facilitate pedestrian movement. A public esplanade will be built along the full length of the waterfront from Bay Street Landing to Pouch Terminal and will significantly improve public access to the waterfront.

A new public pedestrian pier, to replace Pier 13, is recommended at Wave Street to provide an opportunity to view the harbor from a platform some distance from shore. In addition, a major waterfront park will run parallel to the esplanade from Wave Street to Canal Street, where it will link up with an extension of Tappen Park. This connection will link the Stapleton SIRT station to the esplanade. A park similar in character to Battery Park in lower Manhattan is envisaged, creating a new waterfront presence for an expanded and revitalized Stapleton. A series of three small urban parks is proposed at the ends of Wave, Prospect and Thompson Streets which correspond to the visual corridors preserving views of the waterfront from Bay Street. Preliminary cost estimates for these improvements amount to $19.7 million.

No building will be permitted within four visual corridors to preserve important views of the waterfront from Wave, Prospect, Water, Canal and Thompson Streets. The view from Bayley-Seton Hospital will be significantly affected, but careful siting can preserve a substantial portion of the harbor view.

Waterfront Development North of the Coal Terminal

Currently, there are several impediments between Stapleton and the waterfront, including Bay Street, industrial activities, the SIRT elevated tracks, and the vacant waterfront itself. Development of the underutilized waterfront presents a unique opportunity to extend the heart of Stapleton to the water's edge.

Commercial development is recommended on three small parcels of land immediately north of the coal terminal. The vacant customs building can be adapted for retail, office, meeting or exhibition space. Other community or residential uses are also possible development options for these parcels.

Further north, an 8.8-acre parcel with dramatic waterfront views is suitable for a variety of uses, including recreational, residential , commercial, or community. Two smaller adjacent parcels can be used for light industrial, commercial, parking or open space.

Four options are presented for developing this northern area. More detailed analysis is needed to determine a specific development plan. Each option provides a mixed-use approach, including recreational, residential, commercial and community uses. A predominant use is identified in each case to explore a variety of approaches to waterfront development. The selection of one approach to pursue will require more specific financial and engineering analysis and more community input.

THE MARKET FOR U.S. COAL

In addition to the three consultant studies, Ports and Terminals has conducted a marketing study to determine the availability of U.S. coal and its demand in the European market. Several regions in the United States produce coal capable of meeting the requirements of European buyers, including several that are likely to supply coal for the Staten Island export terminal. Those regions include central and western Pennsylvania, northern West Virginia, Ohio, southwest Virginia, eastern and western Kentucky. Many mines in these areas can accommodate unit train operations. The cost of producing and delivering coal from these regions appears to be comparable to other regions in the United States.

U.S. steam coal is considerably more expensive than coal from Australia or South Africa. However, European buyers are aware of Australia's history of labor problems and the potentially explosive political troubles in South Africa. In contrast, the United States can offer security, stability, and dependability. As a result, European buyers are likely to buy U.S. coal in order to ensure a stable supply.

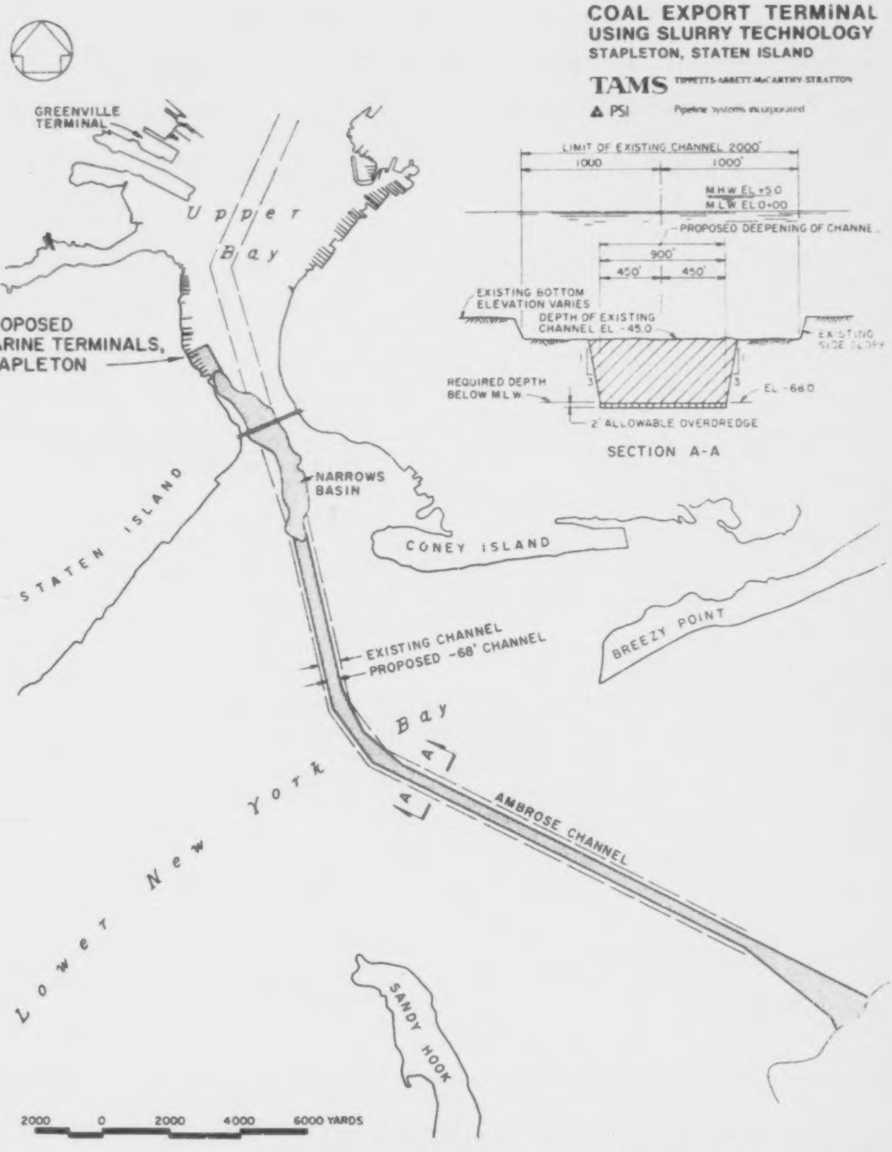
The growth in demand for coal overseas has slowed over the past year, but the level of U.S. coal exports has not decreased. The slowdown in demand is a temporary situation caused by 1) the over-supply of oil; 2) the stockpiling of coal reserves in reaction to labor unrest in Poland and Australia; 3) port congestion in the U.S.; and 4) the current world-wide recession. Oil prices are expected to rise again, and the turmoil in the Middle East raises new questions about the continuing availability of oil. In addition, many European power plants are converting to coal, and most countries in Western Europe have adopted energy plans that call for substantial increases in imported coal to reduce their dependence on imported oil. Some countries already have signed long-term contracts for U.S. coal supplies or have purchased U.S. coal reserves.

In total, these factors indicate a greatly expanded European demand for U.S. coal by the mid 1980s.

FUTURE IMPLICATIONS

The development of a coal export terminal on Staten Island is an historic opportunity for New York to become a leading center in the coal trade. For the first time in decades, the Northeast, rather than the Southeast or the Gulf Coast, has a chance for major new port development.

The influx of private capital generated by the coal terminal also can signal additional large-scale development opportunities for the city. The coal terminal will be the largest private development project here in a generation, and can create a needed climate for the private sector to think seriously once again about industrial development in New York City.



PROPOSED DEEP DRAFT VESSEL CHANNEL
NEW YORK HARBOR

FIGURE
VIII-1

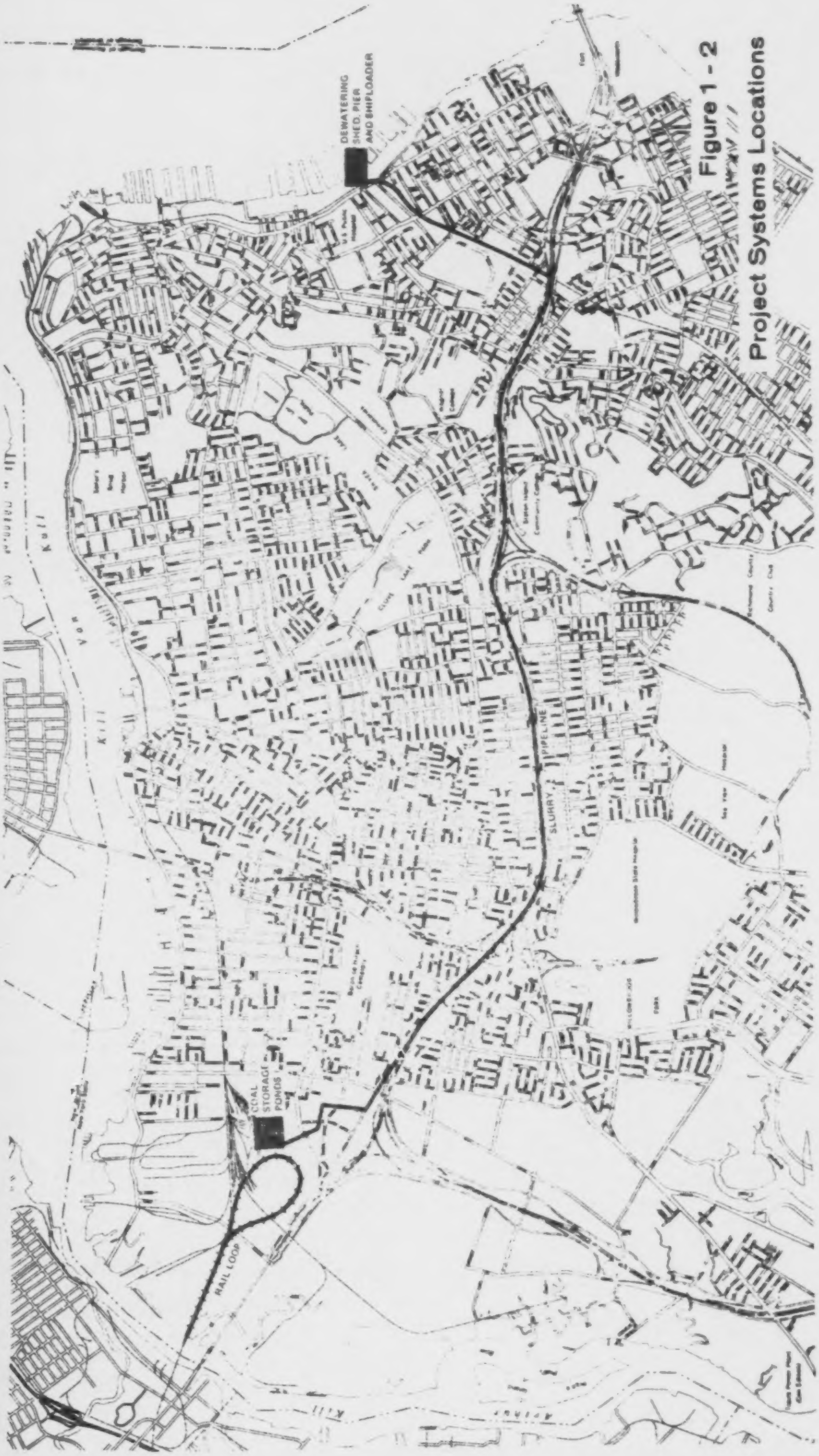


Figure 1 - 2

Project Systems Locations

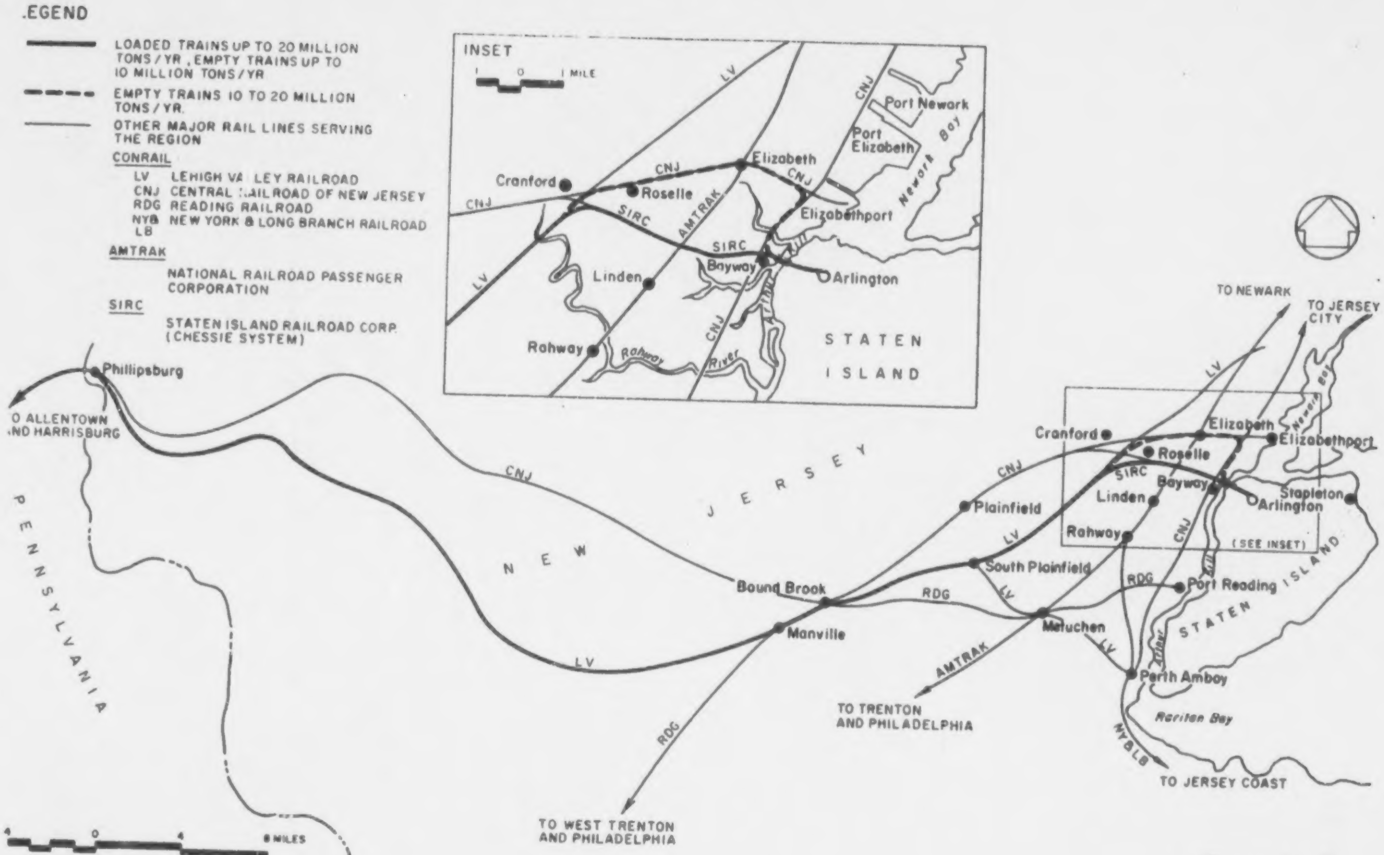


Figure 1 - 3

Corridors in New Jersey

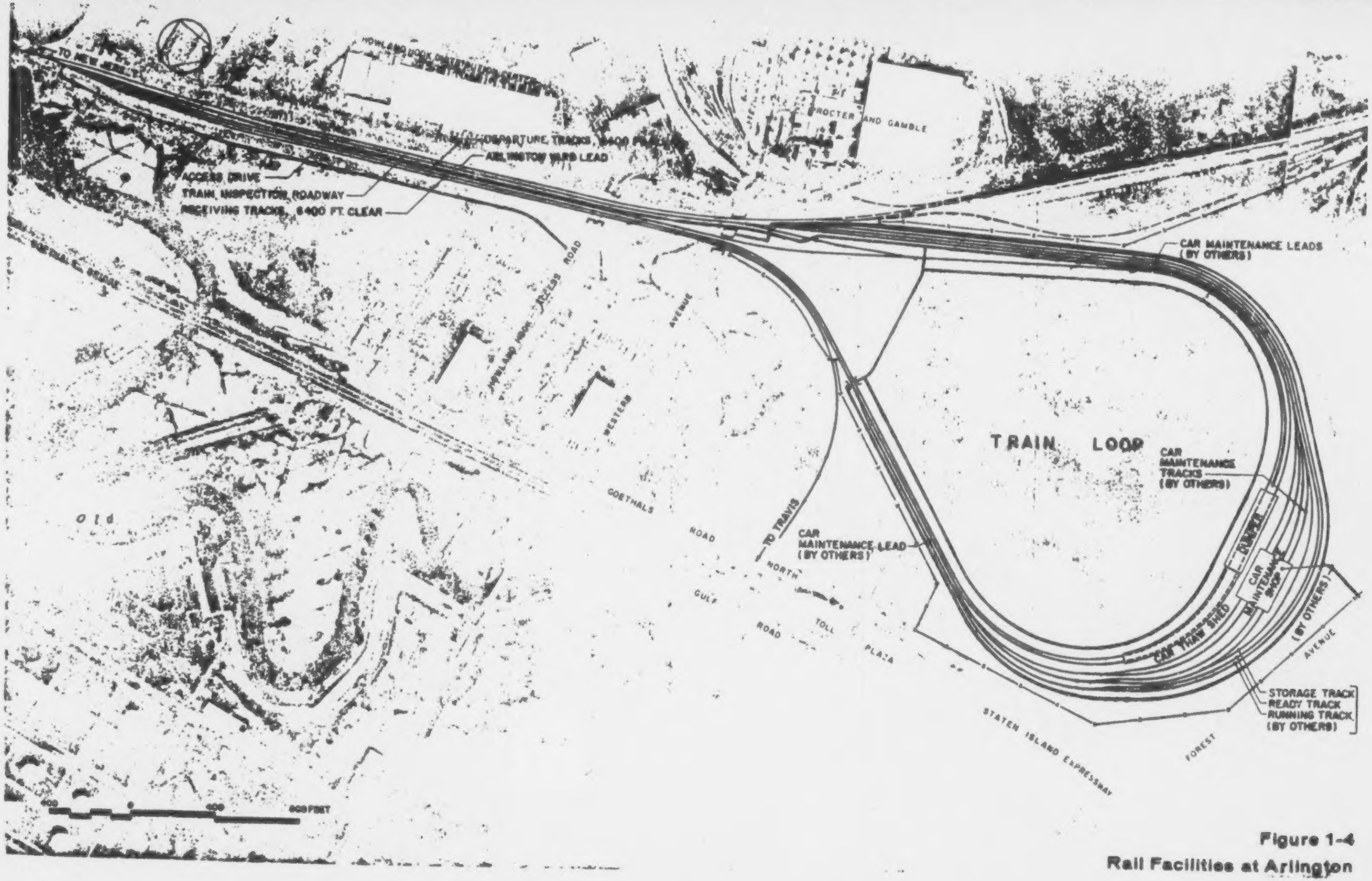


Figure 1-4
Rail Facilities at Arlington

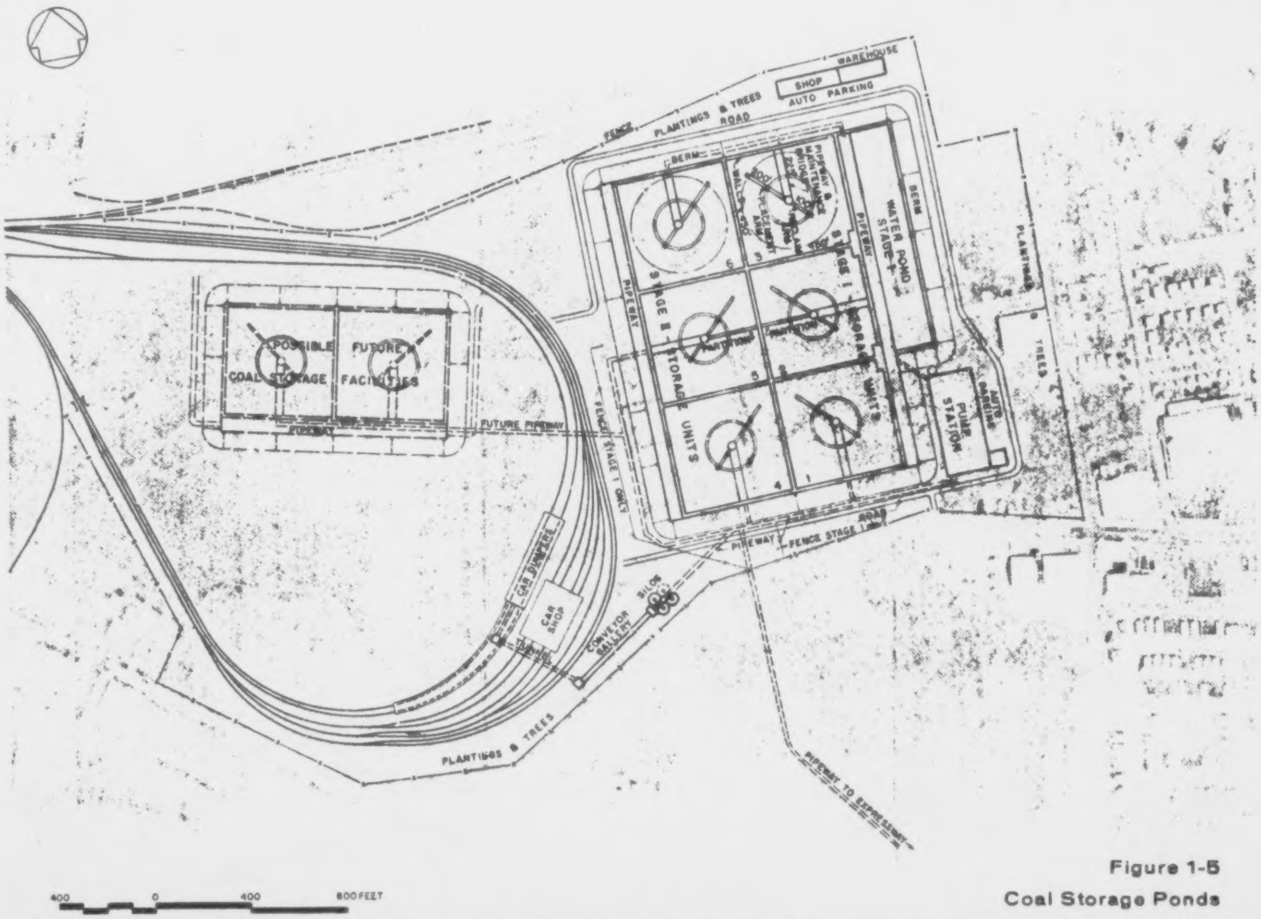


Figure 1-5
Coal Storage Ponds

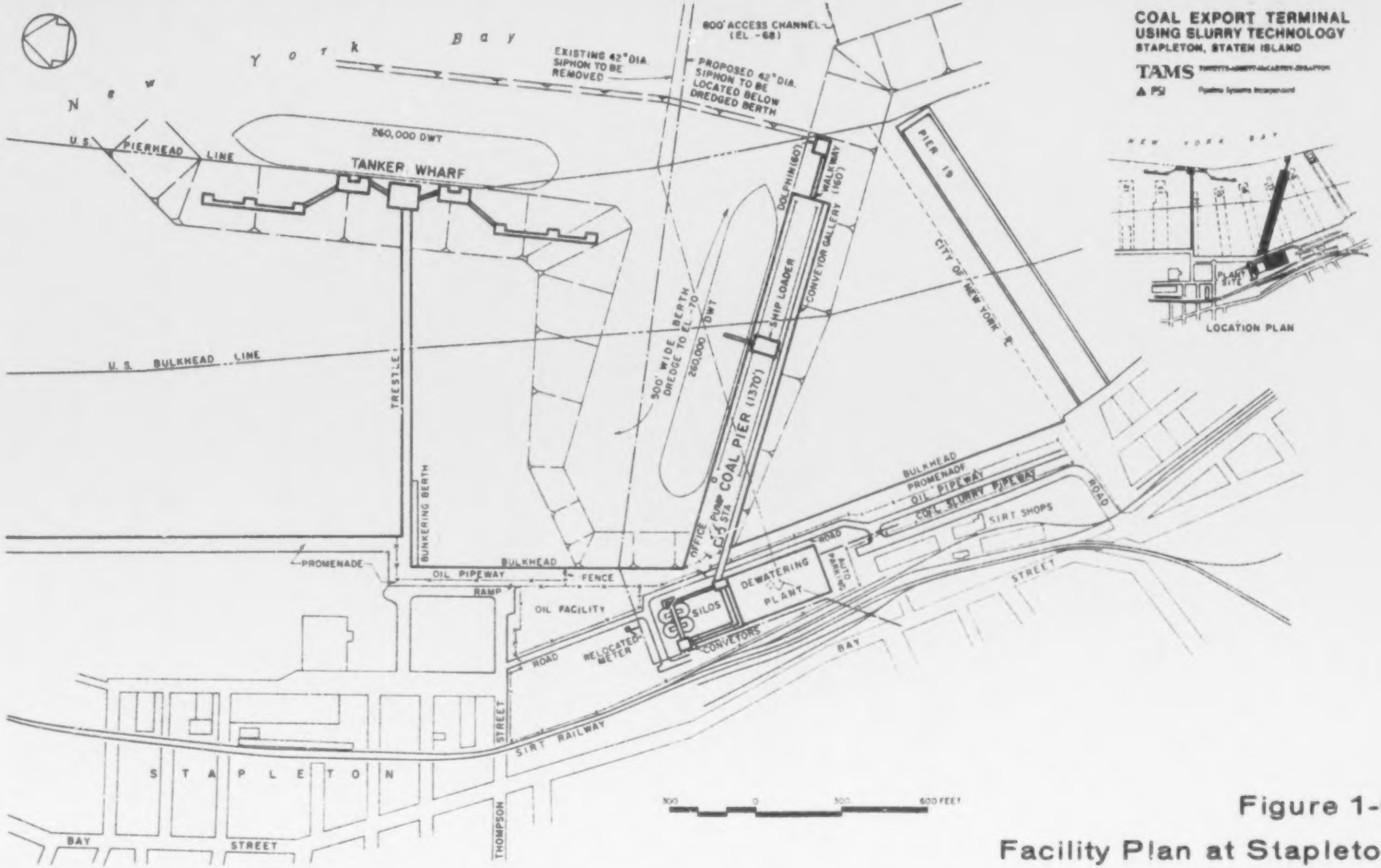


Figure 1-6

Facility Plan at Stapleton

Senator **Warner**. Ms. Seale, you obviously know your subject well and articulate it equally capably. I thank you for coming down today and making this valuable contribution.

Ms. **Seale**. Thank you.

Senator **Warner**. I think the message is coming through that—I have sent for a copy of the Constitution of the United States—the Feds have jurisdiction over these water rates by virtue of that Constitution. If somewhere, somehow, we don't exercise our responsibility, the private sector is going to work a way around it.

Ms. **Seale**. I believe you're right, sir.

Senator **Warner**. Thank you very much. We will now have Mr. John Nikolai, project manager, coal projects, Port Authority of New York and New Jersey.

All right. Apparently he has not appeared as yet. Mr. Kelly, president of the Delaware River Port Authority.

STATEMENT OF RAYMOND G. HEINZELMANN, DIRECTOR, WORLD TRADE, DELAWARE RIVER PORT AUTHORITY; ACCOMPANIED BY ELIAS KULUKUNDIS, PRESIDENT, ENERGY TERMINALS, INC.

Mr. **Heinzelmann**. Mr. Chairman, my name is Raymond G. Heinzelmann. I am director of world trade for the Delaware River Port Authority, Camden, N.J.

I am accompanied by Mr. Elias Kulukundis, the president of Energy Terminals, Inc., of New York City.

I am here representing, in addition to the Delaware River Port Authority which is a bistate agency of New Jersey and Pennsylvania, the Delaware River Bay Authority, a bistate agency of Delaware and New Jersey. We are here today to brief the members of your subcommittee on the current status of the coal terminal development on the Delaware River and, more importantly, on our plans for a deepwater coal export handling system on the Delaware Bay, a new system that will accommodate 160,000 deadweight-ton-size coal colliers of 55- to 60-foot draft.

Mr. Chairman, we are moving ahead now to establish deepwater coal export operations. We are doing this without any dredging and without Federal funds. We believe this project will have a significant impact on the competitive position of Pennsylvania, West Virginia, and other Appalachian origin coal in world markets.

Mr. Chairman, before describing the Delaware Bay coal export operation in more detail, I will briefly describe the status and future of coal terminal development on the Delaware River.

During 1981, about 3.5 million tons of coal were exported through Delaware River coal terminals, primarily through Conrail's coal pier at Greenwich Point in Philadelphia. This year, 1982, we will increase our coal export capacity nearly five times. We will do this principally in two ways.

First, the Conrail facilities at Greenwich Point are undergoing major renovation. By January 1983, the Greenwich Point facility will have an annual capacity of 10 million net tons capable of loading Panamax vessels of 60,000 deadweight tons and partially loading vessels of 85,000 deadweight tons. I have provided the subcommittee with literature describing the Greenwich Point facility.

Second, Energy Terminals, Inc., is within 1 month of completion of a new modern coal terminal at Port Richmond. This new terminal will have an annual capacity of 5 million tons. It will accommodate unit trains on a loop system, have ground storage for about 500,000 tons, and will be computerized for blending of coal. The terminal pier can accommodate Panamax vessels of up to 60,000 deadweight tons.

Energy Terminals has provided the subcommittee with brochures describing Energy Terminal's Port Richmond facility in more detail.

As a result of the renovation and construction of these new coal terminals on the Delaware River, by January 1983, we will have in operation modern coal terminal facilities with an annual capacity of 15 million tons.

In addition, in Camden, N.J., the South Jersey Port Corp. is planning a third modern coal export terminal with a 5-million-ton per year capacity.

Mr. Chairman, that briefly describes where we are today in terms of operational coal export terminals on the Delaware River. The most significant and exciting development, however, is Energy Terminal's establishment of a deepwater coal export operation planned for the Delaware Bay. The export operation will take advantage of the naturally deep water, 55 to 60 feet, in the bay where vessels of 160,000 deadweight tons can be fully loaded for export.

This system will take place in the Big Stone Anchorage in Delaware Bay. It will utilize 37,000-deadweight-ton self-unloading oceangoing barges, each capable of transferring 3,000 tons of coal per hour.

Initially, there will be two of these self-unloading barges which combined can load 75,000 tons of coal in less than 24 hours as a topping-off operation, or 150,000 tons in 4 days as a complete loading operation. This coal transfer system can be operational within 12 months. Its throughput capacity can be expanded to meet future world market demand by expanding the Port Richmond or Conrail Terminal and by using other existing east coast terminals and by adding barges.

This new system will make east coast ports and eastern coal competitive with coal from Australia, South America, the Far East, and in Europe. All east coast coal suppliers will be the beneficiaries of this system.

Finally, Mr. Chairman, the establishment of this deepwater coal export operation will not require Federal dredging or other appropriations. It will be financed by private enterprise.

Mr. Chairman, that completes our formal statement. We would be glad to answer any questions.

Senator **WARNER**. That was a very impressive report. I congratulate you and your colleague and your State for such progress.

Mr. **HEINZELMANN**. Thank you.

Senator **WARNER**. I have no questions at this time, and thank you very much for making this contribution.

Mr. **HEINZELMANN**. Thank you.

Senator **WARNER**. We will now hear from Mr. Hans Mayer, deputy secretary, Department of Economic and Community Development, State of Maryland, Annapolis.

Very well, ladies and gentlemen; we will now turn to the State of Virginia. The chairman is trying to exercise complete equanimity in these hearings. We have waited until the last witness to have my own State present, and we will have Mr. Stan Payne, general counsel, Virginia Port Authority, Norfolk, Va.

Thank you for coming up.

Mr. PAYNE. It's nice to be here.

STATEMENT OF J. STANLEY PAYNE, GENERAL COUNSEL, VIRGINIA PORT AUTHORITY

Mr. PAYNE. My name is J. Stanley Payne. I am general counsel of the Virginia Port Authority, and I chair the agency coal task force.

I am going to keep my remarks brief not because the subject doesn't merit extensive consideration, but no amount of rhetoric is going to change the facts of coal export, so let me give you some of the facts for your consideration.

Fact No. 1 is that Hampton Roads, Va., has been the center of American coal export and even world coal export for many years, for decades. Traditionally 75 percent of this Nation's coal exports have moved through Hampton Roads, Va. Fifty million tons of coal moved last year, roughly four times the amount of any competitor's port.

Fact No. 2, the existing coal piers of Hampton Roads include the world's most efficient and largest. We have a capacity right now of somewhere on the order of 60 million tons. We have an unequalled and unmatched rail infrastructure from mine to port. We are served right now by the massive Norfolk Southern and CSF Coal Systems today.

Fact No. 3, the high-quality coal from the richest Appalachian coal fields, fields that are naturally tributary to the Port of Hampton Roads, Va., will be the coal that the world will demand in future years to generate electricity.

Fact No. 4, as world demand for this high-quality Appalachian coal grows—it will grow dramatically later this decade—Hampton Roads will be ready as the likely port of export. As coal terminal projects up and down each and every coast of the United States can be cancelled or shelved indefinitely, Hampton Roads has no less than three major ground storage facilities that are in various stages of development. These are projects backed by major coal companies that will add some 45 million tons to the capacity of the port. This is really the marketplace at work.

Another fact is that although a large percentage of American coal exports, both steam and metallurgical, will move through Hampton Roads, Va., it is undetermined whether this will be substantial tonnage or not in future years. Whether the demand for American coal will grow dramatically is a vast uncertainty and the reason for such uncertainty is to a large extent simply the cost of American coal.

Certainly our competitors, as has been mentioned earlier, enjoy certain cost advantages in production and natural geography of their mines that we can never hope to offset. They do have one cost advantage that we can and that we must offset, and that is the advantage derived from the ability to load fully larger, more economical coal colliers. In this regard, by dredging Hampton Roads, Va., we could, No. 1, fully load at least the 120 to 130 deadweight ton vessels that are now considered optimal in the long-range coal trade.

No. 2, we could fully load the large vessels that now fully load in Australia, South Africa, and Canada. We could fully load the colliers that depart from Hampton Roads today only partially full, or the ones that must wait until high tide so they can squeeze every inch out of channel depth.

Senator **Warner**. Even at high tide what percentage are going out? Even at high tide with the maximum which nature can provide, you are still sending some out in less than full capacity?

Mr. **Payne**. We did a study recently. The Norfolk and Western pier load depth is 46½ feet in high tide. Our study showed that fully 25 percent of those ships that were sent out could have loaded deeper than 55 feet which is a startling statistic.

Senator **Warner**. That 25 percent number, is that of ships or tonnage of ships?

Mr. **Payne**. It is 25 percent. It was number of ships.

Senator **Warner**. Number of ships—I want to make that clear.

Mr. **Payne**. It is a very important statistic. For every foot deeper we can dig the channel of Hampton Roads, Va., we can load 5,000 more tons of American coal.

Senator **Warner**. You dropped your voice. Pull that mike up and repeat that fact.

Mr. **Payne**. For every foot deeper that we dig the channel of Hampton Roads, we can load 5,000 more tons of American coal.

The bottom line to this is that, all these statistics, we can cut delivery costs of American coal by up to $6 a ton and we can keep vast coal markets of the world receptive to American supplies and face the onslaught from old and new competitors alike.

Those are basically the facts of coal exporting and dredging. I would like to conclude with one further and final observation.

If we do not dredge our harbors to meet foreign competition, then in the midst of the coming world coal boom in future years, simply look to Hampton Roads to see its effect. Two facts will be evident. If American coal is not moving through Hampton Roads, then it is not moving at all, and if American coal is not moving, then we have foolishly failed to grasp an all too fleeting opportunity.

[Material attached to Mr. Payne's statement follows:]

COAL EXPORT FACILITIES IN HAMPTON ROADS

EXISTING FACILITIES

EXISTING RAILROAD COAL LOADING PIERS IN NORFOLK AND NEWPORT NEWS ARE, OF COURSE, THE BASIS FOR HAMPTON ROADS' DOMINANT POSITION IN COAL EXPORT:

THE NORFOLK & WESTERN PIER 6, FOR EXAMPLE, IS THE FASTEST, MOST EFFICIENT COAL LOADING FACILITY IN THE WORLD. IT HAS TWIN SHIP LOADERS, EACH WITH A LOAD RATE OF 9,000 TONS PER HOUR AND CAN ACCOMMODATE SHIPS WITH A 46.5 FOOT DRAFT. NORFOLK & WESTERN PIER 5 IS AN OLD FACILITY, WITH A SINGLE FIXED SHIP LOADER, WITH A LOADING CAPACITY OF 2500 TONS PER HOUR. COAL IS FED INTO THE PIERS FROM A 7,000 CAR STORAGE YARD. THE TWO PIERS DUMPED 33.6-MILLION TONS OF COAL LAST YEAR, 4-MILLION TONS OF WHICH WERE STEAM COAL.

CHESSIE PIER 14 IN NEWPORT NEWS HAS A LOADING RATE OF 9,000 TONS PER HOUR AND PIER 15 APPROXIMATELY 2,000 TONS PER HOUR. PIER 14 CAN ACCOMMODATE SHIPS WITH A 45 FOOT DRAFT. THESE TWO PIERS DUMPED 16.3-MILLION TONS OF COAL IN 1981, 4.7-MILLION TONS OF THAT WAS STEAM COAL.

THE CAPACITY OF THESE EXISTING TERMINALS, WHEN COMBINED WITH OTHER HAMPTON ROADS COAL EXPORT FACILITIES IN VARIOUS STAGES OF PLANNING OR CONSTRUCTION, WILL NEARLY DOUBLE THE LOADING CAPACITY OF THE PORT BY 1985.

EXPANSION PLANS FOR HAMPTON ROADS

VIRGINIA COAL TERMINAL - ON NOVEMBER 6, 1981, SIX MAJOR COAL COMPANIES (PITTSTON, MASSEY, CONSOLIDATION, ISLAND CREEK, UNITED AND INTER-MOUNTAIN) ANNOUNCED PLANS TO SUPPORT THE DEVELOPMENT OF A VIRGINIA PORT AUTHORITY OWNED FACILITY IN PORTSMOUTH. THIS CONSORTIUM INCLUDES THE TOP COAL EXPORTERS THROUGH THE PORT OF HAMPTON ROADS. THE GROUND STORAGE FACILITY WILL BE BUILT INITIALLY WITH A 18-MILLION TON ANNUAL CAPACITY, EXPANDABLE IN THE SECOND PHASE TO 25-MILLION TONS. THE PIER WILL BE ABLE TO LOAD AT 10,000 TONS PER HOUR AND WILL BE BUILT TO ACCOMMODATE SHIPS WITH A 55 FOOT DRAFT. THE TERMINAL WILL HAVE A TWO WAY MIXING CAPABILITY AND, SIGNIFICANTLY, WILL BE SERVED BY THE N&W AND CHESSIE RAILROADS, GIVING IT THE UNIQUE CAPABILITY TO BLEND N&W AND CHESSIE COAL.

ENVIROMENTAL CONSULTANTS ARE PROCEEDING WITH DETAILED ENVIRONMENTAL EVALUATION OF THE PROPOSED SITE, WHILE CONSULTING ENGINEERS FINALIZE ENGINEERING DESIGN CONCEPTS,AND INVESTMENT BACKERS CONTINUE TO EXPLORE VARIOUS FINANCING METHODS. ONCE THE GO AHEAD IS GIVEN, CONSTRUCTION WILL TAKE APPROXIMATELY 18 MONTHS.

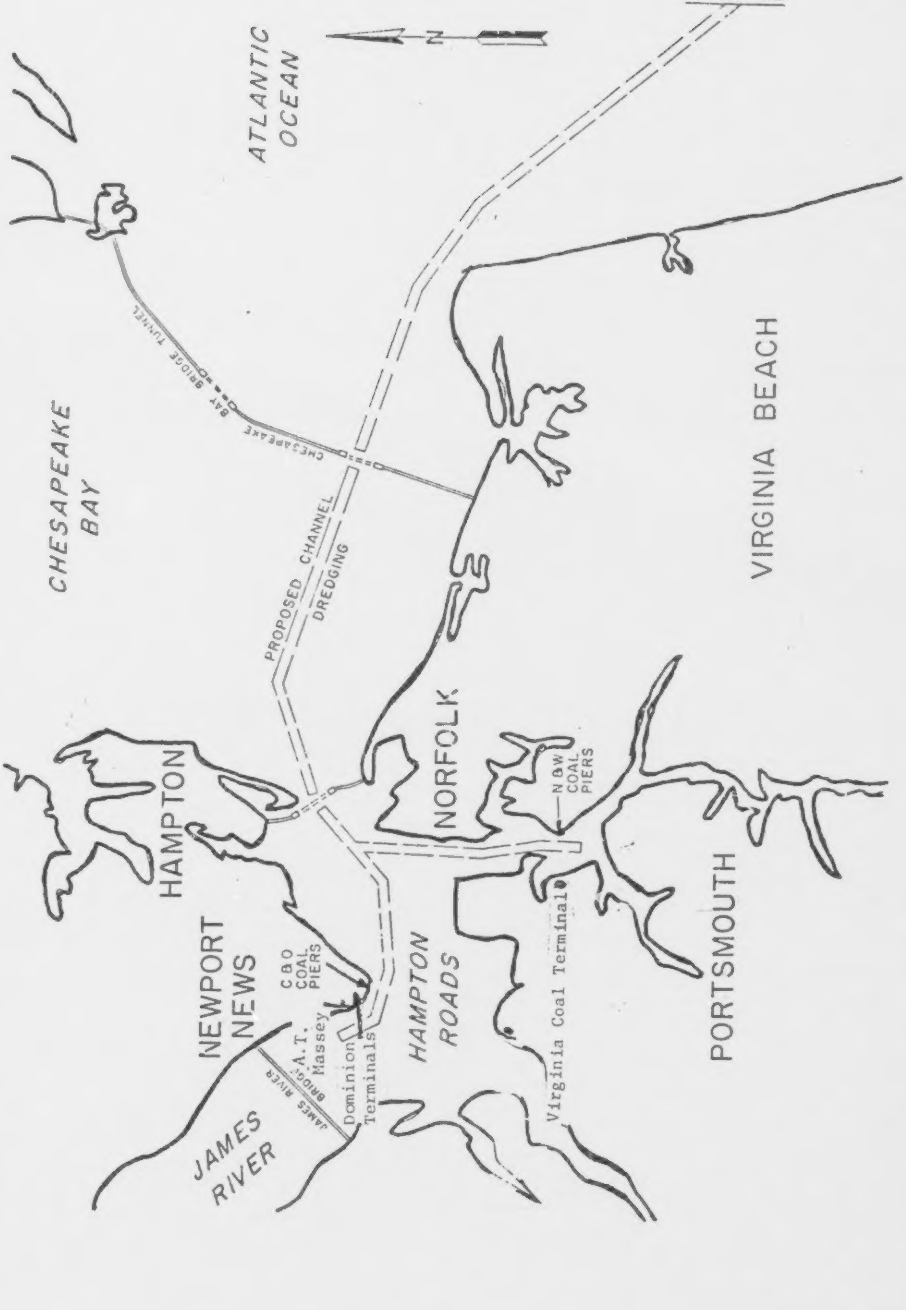
A. T. MASSEY - THIS GROUND STORAGE FACILITY IS CURRENTLY UNDER CONSTRUCTION IN NEWPORT NEWS WITH A COMPLETION DATE OF EARLY 1983. LOADING FACILITIES WILL INCLUDE A SINGLE BERTH PIER WITH A BELT CONVEYOR SYSTEM CAPABLE OF LOADING AN 85,000 TO 90,000 TON COLLIER IN A DAY, WITH

AN OPTIMUM LOADING TIME OF 16 HOURS. THE NEW PIER WILL HAVE A THROUGHPUT CAPACITY OF 12 MILLION TONS OF COAL PER YEAR.

DOMINION TERMINAL ASSOCIATES - A CONSORTIUM OF WESTMORELAND COAL COMPANY, ARMCO, INC., ASHLAND, UTAH INTERNATIONAL, AND PITTSTON COAL COMPANIES HAS BEGUN PRELIMINARY SITE PREPARATION FOR A COAL EXPORT FACILITY ON 63.5 ACRES OF LAND IN NEWPORT NEWS. THE GROUND STORAGE FACILITY WILL BE CAPABLE OF HANDLING VESSELS WITH A 55 FOOT DRAFT AND HAVE A THROUGHPUT CAPACITY OF 15 MILLION TONS PER YEAR. CONSTRUCTION OF THE FACILITY IS EXPECTED TO TAKE 2 YEARS.

7/14/82

TABLE 12


N
ATLANTIC OCEAN
CHESAPEAKE BAY
CHESAPEAKE BAY BRIDGE TUNNEL
PROPOSED CHANNEL DREDGING
VIRGINIA BEACH
HAMPTON
NORFOLK
N&W COAL PIERS
PORTSMOUTH
Virginia Coal Terminal
Virginia Coal Terminal
HAMPTON ROADS
NEWPORT NEWS
C&O COAL PIERS
A.T. Massey
Dominion Terminals
JAMES RIVER BRIDGE
JAMES RIVER

THE DREDGING OF HAMPTON ROADS

AMERICA'S NO. 1 COAL PORT

OCTOBER, 1981

Prepared by the
VIRGINIA PORT AUTHORITY
with the assistance of the
HAMPTON ROADS MARITIME ASSOCIATION.
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THE DREDGING OF HAMPTON ROADS
AMERICA'S NO. 1 COAL PORT

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INTRODUCTION

In the Fall of 1980, a flotilla of over 150 colliers, an estimated 17% of the world's deadweight tonnage, sat in the anchorages of Hampton Roads, Virginia. Their bounty - the high-quality coal from the rich fields of central and southern Appalachia. Their ultimate destination - the power plants, steelmills, and factories of our industrialized allies in Europe and Asia in the process of turning away from the volatile, costly suppliers of middle eastern oil and unstable sources of coal in Poland and Australia.

This study will examine briefly the history of U. S. coal exportation, dominated by Hampton Roads, factors which will fortify this position of dominance in the future, and the role of the Federal government in removing impediments to maximum participation of all American suppliers in the burgeoning coal export market.

THE DEVELOPMENT OF AMERICAN COAL EXPORT AND THE PORT OF HAMPTON ROADS

The export of American coal is certainly not a new phenomenon - the first coal was exported from this country's vast reserves (Table I) in the late 1800's. Such coal was used primarily to fire the enormous furnaces of overseas steel mills and, hence, became known as 'metallurgical' or 'met' coal. Only a narrow range of coal is suited for steelmaking and foreign buyers have found their needs best satisfied from the fields of Appalachia, with enormous reserve of quality, high volatile, low sulfur content coal (Table 2).

A vast rail infrastructure of two of the nation's largest rail systems, the Norfolk & Western and Chessie, built around the coal fields of Appalachia and extended to the closest port, Hampton Roads. The two railroads built vast coal terminals to handle the flow of coal to foreign markets.

The Norfolk & Western Railway (N&W) owns and operates Piers 5 and 6 at Lambert's Point in Norfolk. Pier 6 is the largest capacity coal pier in the world, with a capacity of 16,000 tons per hour. Complementing Pier 6 is the smaller Pier 5 with a capacity of fifty 70-ton cars per hour. On the northside of Hampton Roads, in Newport News, the Chessie railroad operates Pier 14 with a capacity of 9,000 tons per hour, and Pier 15 with 12,000 tons per hour loading capacity.

The railroad piers thrust Hampton Roads into a position of dominance in the coal export market, primarily a market for 'met' coal (Table 3 & Table 4). The recent surge in the demand of foreign buyers, however, has not been for the 'met' coal that dictated the design and operation of current facilities. The increased demand, beyond any expectations, has been for 'steam' coal used to generate electricity, and that demand, again centered on Hampton Roads, has brought the United States a set of problems requiring expedited resolution.

TABLE 1

WORLD COAL RESOURCES AND RESERVES BY MAJOR COAL-PRODUCING COUNTRIES (MTCE)

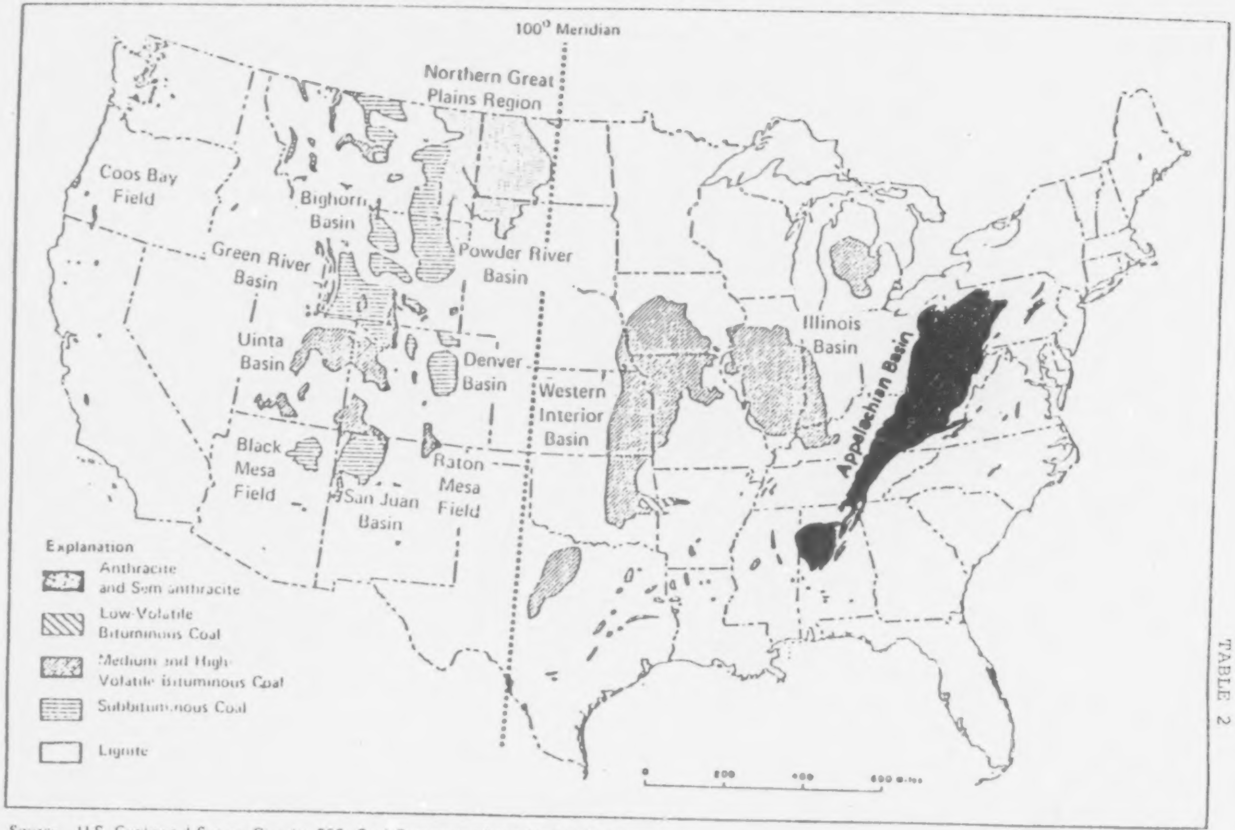
	Geological Resources	Technically and Economically Recoverable Reserves
Australia*	600,000	32,800
Canada*	323,036	4,242
People's Republic of China*	1,438,045	98,383
Federal Republic of Germany*	246,800	34,419
India*	81,019	12,427
Poland*	139,750	59,600
Republic of South Africa	72,000	43,000
United Kingdom*	190,000	45,000
United States*	2,570,398	166,950
Soviet Union	4,860,000	109,900
Other Countries	229,164	55,711
Total World	10,750,212	662,932

*WOCOL member

Source: World Energy Conference and WOCOL Country Reports

TABLE 2

Coal Fields of the United States



Source: U.S. Geological Survey Circular 293, *Coal Resources of the United States.*

TABLE 3

OCEANBORNE COAL EXPORTS
FROM UNITED STATES AND HAMPTON ROADS
THOUSANDS OF SHORT TONS BY YEARS

YEARS	TOTAL UNITED STATES	HAMPTON ROADS	HAMPTON ROADS AS % OF U.S.
1957	58,000	51,016	88.0
1958	38,055	33,860	89.0
1959	24,846	23,029	92.7
1960	24,902	23,185	93.1
1961	23,801	22,661	95.2
1962	27,003	24,944	92.4
1963	33,316	29,705	89.2
1964	33,782	30,480	90.2
1965	35,357	31,951	90.4
1966	34,362	31,521	91.7
1967	34,366	32,625	94.9
1968	34,006	31,851	93.7
1969	39,601	37,044	93.5
1970	52,622	46,229	87.9
1971	39,273	33,924	86.4
1972	38,078	31,661	83.2
1973	36,878	30,132	81.7
1974	46,471	37,652	81.0
1975	49,029	36,506	74.5
1976	43,078	32,204	74.8
1977	36,621	24,350	66.5
1978	25,047	15,396	61.5
1979	45,624	33,788	74.1
1980	74,158	48,629	65.6

TABLE 4

U. S. EXPORTS OF BITUMINOUS COAL
THOUSANDS OF SHORT TONS

SEAPORT	1974	1975	1976	1977	1978	1979	1980
HAMPTON ROADS	35,745	36,952	32,000	24,244	15,396	33,753	51,773
BALTIMORE	5,949	6,769	6,327	7,055	5,887	9,141	12,124
PHILADELPHIA	1,431	802	447	187	90	55	1,522
NEW ORLEANS	992	1,292	1,297	1,432	1,388	1,410	3,826
MOBILE	1,746	2,745	2,755	3,611	1,848	1,234	2,447
GREAT LAKES	14,063	17,108	16,580	17,158	15,214	19,140	18,189
TOTAL	59,926	65,669	59,406	53,687	39,825	64,783	89,882

SOURCE: U.S. Department of Commerce, as reported in National Coal Association, International Coal: 1979

II. HAMPTON ROADS - AMERICA'S COAL PORT OF THE FUTURE

Traditionally, the Port of Hampton Roads has handled approximately 75% of all U. S. overseas coal exports, primarily metallurgical coal. Based on a tremendous surge in demand for steam coal, the World Coal Study projected that U. S. coal exports, steam and metallurgical, might reach 350 million tons by the year 2000 (Table 5). The Interagency Coal Export Task Force predicted U. S. steam coal exports of 197 million tons by 2000.

The surge in foreign demand for U. S. coal is, of course, the basis for the current scramble among American ports to build coal facilities. Even with such competition, there is little doubt that Hampton Roads will remain America's dominant coal port. Recent projections show that up to 120 million tons of Central Appalachian coal could move through Hampton Roads in the year 2000, together with 10-15 million tons of Northern Appalachian coal (Table 6). It is apparent, factors that precipitated the rise of Hampton Roads as the leading U. S. coal port will dictate its retention of that position in the future.

A. Proximity to the Appalachian Coal Fields

As noted simply by the Interagency Coal Export Task Force, 'coal is not a homogeneous substance.' Variables

TABLE 5

Table 5 Estimated Coal Export Potentials for Principal Exporters (mtce/yr)

		Year 2000	
Country/Region	*1977*	*Current Expectations*	*Estimated Maximum Potential*
United States	49	125–200	350
Australia	38	160	200
Republic of South Africa	12	55–75	100
Canada	12	27–47	67
Poland	39	50	50
Soviet Union	25	50	*
People's Republic of China	3	30	*
Federal Republic of Germany	14	23–25	*
India and Indonesia	1	5	*
Latin America, Africa, others	7	25–50	*
World total	200	550–700	930

* Estimates of maximum export potential were not developed.

SOURCE: Report of the World Coal Study

TABLE 6

Recent and Forecast U.S. Overseas Coal Exports

By Producing Districts and Ports (short tons)

	1980	1985	1990	2000
1. Northern Appalachia	20.3	22-24	25-30	35-45
thru Baltimore/Phil./NYC	12.8	13-16	15-20	20-35
thru Hampton Roads	7.5	5-7	10-15	10-15
2. Central Appalachia	47.6	45-60	60-80	100-130
thru Baltimore/Phil./NYC	-	1-2	2-3	3-5
thru Hampton Roads	43.6	40-55	55-75	90-120
thru Southeast and Gulf Ports	4.0	2-4	3-5	3-5
3. Southern Appalachia	6.5	6-8	10-12	15-20
thru Southeast and Gulf Ports	6.5	6-8	10-12	15-20
4. Interior and Gulf	0.8	0-1	2-4	15-25
thru Mobile/New Orleans	0.8	0-1	2-4	15-25
5. Western U.S.	1.1	1-3	3-6	20-30
Total Overseas	76.3	75-90	105-125	180-205
thru Hampton Roads	51.8*	45-60	55-85	100-130

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[1] Includes 1.2 million short tons actually shipped through Mobile.

SOURCE: Arthur D. Little, Inc.

include ash, sulfur and moisture content, and volatility. As an example, currently there are 986 different classifications of coal on file at the N&W Lambert's Point coal pier in Norfolk. In any given 60-day period, 400 of these are active. Although steam coal need not possess the very strict qualities of metallurgical coal, the volatility and level of impurities determines suitability for steam generation. The coal favored by foreign buyer is a low sulfur, low ash bituminous found in Central and Southern Appalachia. In 1979, nearly 70% of all bituminous coal exports came from this region (Table 7), drawing from a large reserve of 23,986 million tons of low sulfur coal (Table 8). Fully 60% of the ton reserves of the region are considered of low sulfur content and, thus, much in demand (Table 9). Perhaps the most important figure, however, is that fully 84% of low sulfur Appalachian coal reserves may be considered naturally tributary to Hampton Roads; that is, if such coal is export, it is likely to move through Hampton Roads (Figure 10). A mere reference to a map, such as in Table 2 , indicates the reason for the projected preference - the close proximity of Hampton Roads to the coal fields themselves.

B. Vast Rail Network

As noted previously, the port of Hampton Roads is blessed with the service of two major rail systems, the N&W and Chessie,

TABLE 7

U.S. PRODUCTION AND BITUMINOUS COAL EXPORTS IN 1979, BY SUPPLY REGION
(millions of short tons)

Supply Region	Production	Exports
Northern Appalachia	174.0	20.6
Central and Southern Appalachia	250.7	44.4
Midwest	130.2	*
Central West and Gulf	40.0	0.2
Northern Great Plains	120.1	0.0
Rockies and Southwest	55.5	*
Northwest and Alaska	5.8	0.0
Unidentified Origin	0.0	*
Total	776.3	65.2

---

* Indicates an amount less than 0.05 million tons.

Sources: Production -- Bituminous Coal and Lignite Production, EIA.

Exports -- Coal International, 1979

SOURCE: Arthur D. Little, Inc.

TABLE 8

LOW-SULFUR APPALACHIAN COAL RESERVES BASED ON 1976 BUREAU OF MINES DEMONSTRATED RESERVE BASE

(0.83 lbs S/million Btu or less) (a)

	Million Short Tons
Northern Appalachia	
Pennsylvania	881
Maryland	27
Ohio	-
Northern West Virginia	2,097
	3,006
Central & Southern Appalachia	
Southern West Virginia	12,398
Virginia	2,651
Eastern Kentucky	7,661
Tennessee	297
Alabama	978
	23,986
Total	23,991

(a) Figures may not sum to totals due to rounding. These estimates are conservative, because the sulfur content of a substantial portion of the reserve base is classified "Unknown".

Source: U.S. Bureau of Mines.

SOURCE: Arthur D. Little, Inc.

TABLE 9

SULFUR CONTENT OF U.S. RESERVES BY REGION AND COAL TYPE, BASED ON 1974 U.S. BOM DEMONSTRATED RESERVE BASE (a)

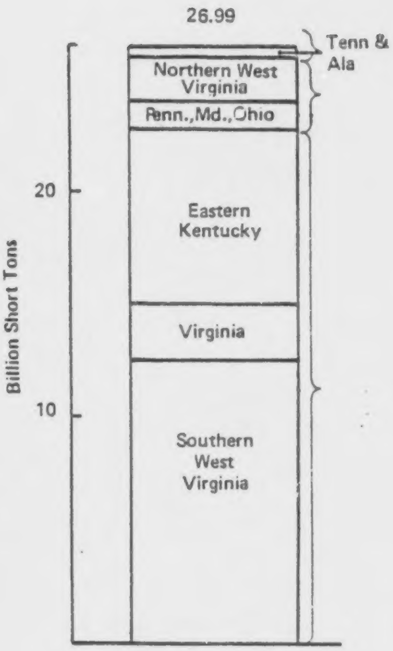
(billions of short tons)

Supply Region	Low Sulfur	Medium-Low Sulfur	Medium-High Sulfur	High Sulfur	Total
Northern Appalachia					
Bituminous	2.3	0.6	23.0	26.6	52.5
Anthracite	N.A.	N.A.	N.A.	N.A.	7.1
Unknown	N.A.	N.A.	N.A.	N.A.	14.3
Central & Southern Appalachia					
Bituminous	16.4	6.3	4.2	0.9	27.8
Unknown	N.A.	N.A.	N.A.	N.A.	11.5
Midwest					
Bituminous	0.1	2.4	5.7	45.1	53.3
Unknown	N.A.	N.A.	N.A.	N.A.	35.4
Central West and Gulf					
Bituminous	0.3	0.1	0.9	6.0	7.3
Subbituminous	–	–	0.6	–	0.6
Unknown (b)	N.A.	N.A.	N.A.	N.A.	10.9
Northern Great Plains					
Bituminous	2.4	+	6.2	0.4	14.0
Subbituminous	113.1	3.5	20.1	–	136.7
Lignite	0.8	6.3	4.2	2.3	13.6
Unknown	N.A.	N.A.	N.A.	N.A.	15.0
Rockies and Southwest					
Bituminous (c)	6.2	3.8	0.8	–	10.8
Unknown	N.A.	N.A.	N.A.	N.A.	12.3
Northwest and Alaska					
Bituminous	0.1	–	–	0.1	0.2
Subbituminous	–	–	0.4	–	0.4
Unknown (d)	N.A.	N.A.	N.A.	N.A.	7.2
Other (Isolated Deposits)					
Bituminous	–	–	0.1	+	0.1
Subbituminous	+	–	–	+	+
Lignite	–	0.1	+	–	0.1
Unknown	N.A.	N.A.	N.A.	N.A.	0.1

SOURCE: Interagency Coal Export Task Force

FIGURE 10

LOW SULFUR APPALACHIAN COAL RESERVES
(0.83 lbs S/million BTU or less)



	REGION	LIKELY PORT OF EXPORT	%
1.27	Southern Appalachia	Mobile/New Orleans	4.7
3.01	Northern Appalachia	Philadelphia/Baltimore	11.2
22.71	Central Appalachia	Hampton Roads	84.1

Source: U.S. Bureau of Mines, Arthur D. Little, Inc.

which not only own and operate the existing coal piers but will also provide service to future facilities now being planned. Fully 34% of the rich reserves of Central Appalachia are tributary to the N&W and 39% tributary to the Chessie system (Table 11). In terms of Hampton Roads, Arthur D. Little, Inc., has made the following analysis of the benefits of the combination of railroad infrastructure and proximity of port to coal fields:

- Mining District #7 (parts of Southern West Virginia and Virginia) is served principally by the N&W railroad and has a high concentration of both metallurgical and low sulfur coals. It has historically provided by far the largest share of its production to export (over 50% in 1980).
- Mining District #8 (parts of Kentucky, Virginia, Southern West Virginia, Northern Tennessee and North Carolina), also has a very high concentration of both metallurgical and low sulfur steam coal. The eastern portions of this district are served principally by N&W and the Chessie both of whom would favor Hampton Roads over other ports.
- Districts 7 & 8 together have over 80% of the low and medium sulfur reserves in the Appalachian Region. The combined inland and shipping transportation costs would favor Hampton Roads from almost all parts of these districts...

TABLE 11

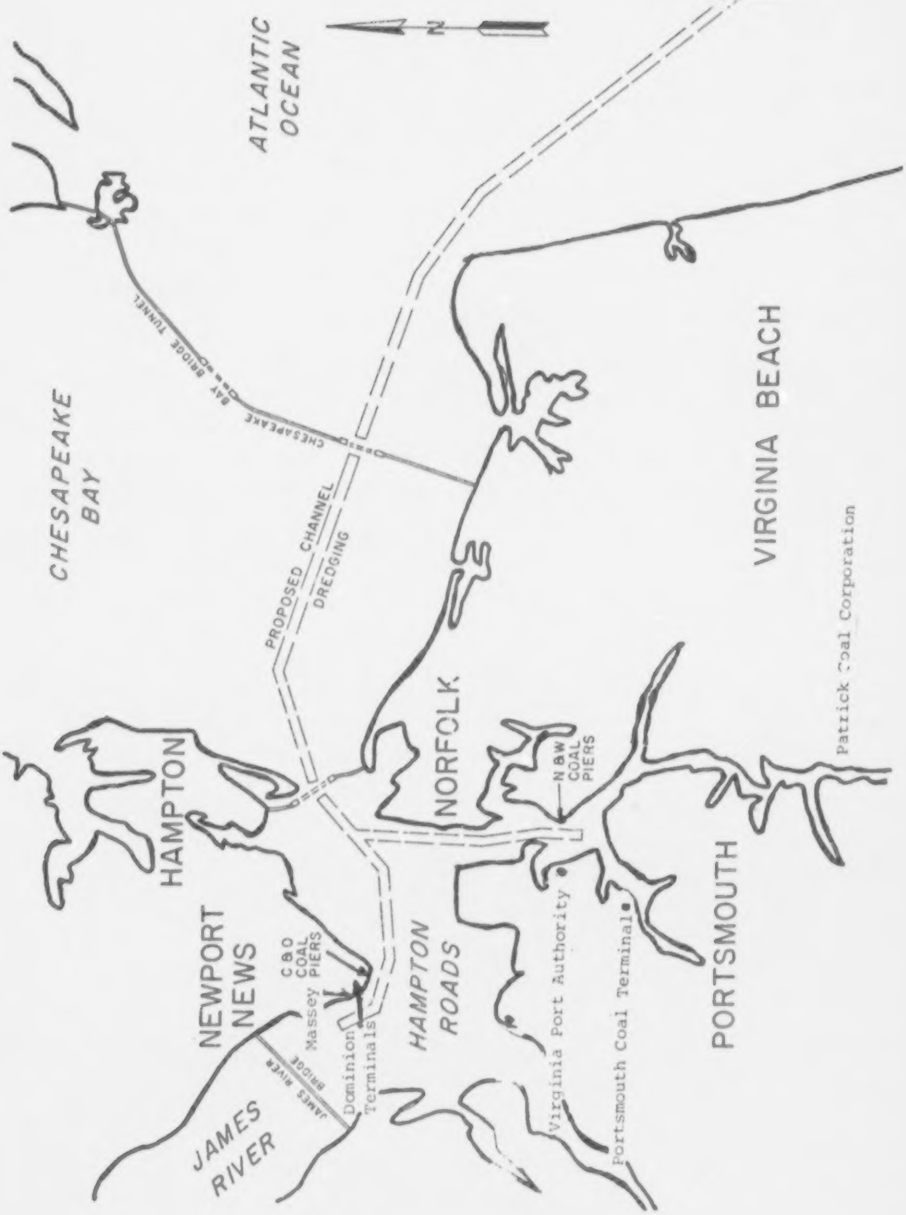
Virginia, Eastern Kentucky, and Southern West Virginia Coal Reserves by Servicing Rail Line

Coal Reserves (Billions of short tons)

Servicing Railroad	Southern West Virginia	Virginia	Eastern Kentucky	Total
B&O	2.6	---	---	2.6
C&O	10.7	---	3.7	14.4
N&W/SOU	7.4	2.1	3.0	12.5
L&N/Clinchfield	---	1.4	6.1	7.5
TOTAL	20.7	3.5	12.8	37.0

Source: Arthur D. Little, Inc. estimates based on 1975 U. S. Bureau of Mines reserve base (county by county) and county by county rail service maps.

TABLE 12


N
ATLANTIC OCEAN
CHESAPEAKE BAY
CHESAPEAKE BAY BRIDGE TUNNEL
PROPOSED CHANNEL DREDGING
VIRGINIA BEACH
Patrick Coal Corporation
NORFOLK
N&W COAL PIERS
HAMPTON
NEWPORT NEWS
C&O COAL PIERS
Massey
Dominion Terminals
HAMPTON ROADS
Virginia Port Authority
Portsmouth Coal Terminal
PORTSMOUTH
JAMES RIVER BRIDGE
JAMES RIVER

So naturally tributary is such coal to Hampton Roads that coal analyst, Joel Price noted that certain Appalachian coal moving through Savannah, Georgia, would do so at a $2 per ton disadvantage as compared to Hampton Roads. Further, the Mobile, Alabama McDuffie Terminal Bond justification stated, tellingly that "only in rare cases would inland shipping from mines in Eastern Kentucky or Western Virginia to Gulf ports be lower in cost than export shipments through East Coast ports."

C. Expanding the Coal Loading Capacity of Hampton Roads

The long queue of colliers in Hampton Roads that signaled the surge in foreign demand for U. S. coal presented an opportunity for the construction of additional facilities. Response from the private sector has been swift and of quality. Major projects shown in Table 12 include:

. The Virginia Port Authority is considering construction of a state-owned ground storage facility in Hampton Roads with an annual throughput capacity of 18-25 million tons and designed to accommodate vessels with a 55 foot draft. Consolidation, Pittston, A. T. Massey, Island Creek, United, and Inter-Mountain coal companies have funded preliminary design and environmental work for the facility.

- A. T. Massey (Newport News) - A $120 million facility is currently planned with a operational date early in 1983. Loading facilities will include a single berth pier with a belt conveyor system capable of loading an 85,000 to 90,000 ton collier in a day with an optimum loading time of 16 hours. The new pier will have a capacity of 12 million tons of coal per year.
- Dominion Terminal Associates (Newport News) - A consortium of Westmoreland Coal Company, Armco, Inc., Ashland, Utah International, and Pittston coal companies has announced plans for the construction of a facility on 63.5 acres of land between the Massey coal terminal and Chessie Pier 14. The facility will

be capable of handling vessels with a 55 foot draft and have a throughput capacity of 15 million tons per year.

- Portsmouth Coal Terminal (Portsmouth) plans an $8 million coal terminal also for Pinners Point in Portsmouth with construction scheduled to begin this Fall. The facility could be operational by the Fall of 1982.

  The facility will have the capacity to handle between three and five million tons of coal a year.

- Patrick Coal Terminal (Chesapeake) is considering construction of a 30-acre coal facility on the Southern Branch of the Elizabeth River in Chesapeake, Virginia. The facility will be capable of handling three to five million tons per year and may be operational by the end of this year.

III. THE FEDERAL ROLE - DREDGING

While the projected growth in world demand represents an unprecedented opportunity for U. S. suppliers, that same opportunity is given foreign coal producers. While current uncertainties plague the role of Poland in the world coal market, it is clear that South Africa and Australia (and perhaps Canada) have emerged as quite formidable competitors.

As the United States, South Africa and Australia each become dependable, stable sources of world coal supply, buyers will shift their focus to price - their cost of a delivered ton of coal. It is in this respect that U. S. producers may find themselves at a distinct disadvantage, a disadvantage stemming from the shallowness of American ports.

A. Economics of Scale in the Ocean Transport of Coal

Stated quite simply, economics-of-scale dictate that larger vessels will ply the coal trade in the future. Daily costs per ton in the operation of colliers decrease dramatically as ship size increases: cost $.527 per ton per day for a 60,000 dwt collier drop to $.405 per ton per day for a 100,000 dwt vessel, further decrease to $.318 per ton per day for a 150,000 dwt 'super-collier' (Table 13).

The Interagecny Coal Export Task Force, concluded that at the current prices for bunker fuel, a 150,000 dwt ship

TABLE 13

AVERAGE DAILY COST OF VESSELS

	60,000 DWT	100,000 DWT	150,000 DWT
Daily Capital Cost	$10,300	$13,977	$18,229
Daily Fuel Cost	17,400	21,900	24,300
Daily Vessel Expenses	3,900	4,623	5,233
Total	31,600	40,500	47,762
Daily Cost Per Ton	.527	.405	.318

Source: Maritime Administration, December 1980 could deliver coal to Europe from the East Coast for roughly $6.00 per ton less than one of 60,000 dwt, the $6.00 difference amounting to a remarkable 10% of delivered cost of coal.

In a study cited by the Interagency Coal Export Task Force, figures clearly showed the trend toward utilization of larger vessels. In 1974 27% of the world's coal fleet was over 60,000 dwt. In 1979, that number had reached 50%. The percentage of ships 100,000 dwt and over that was 6% in 1974, had reached 26% in 1979. According to a report by H. P. Drewry (Shipping Consultants) Ltd., in 1970 88% of the oceanborne coal trade moved in ships smaller than 60,000 dwt, 12% moved in ships in the 60,000-100,000 dwt range, and no coal moved in ships of greater than 100,000 dwt. In 1979, dramatic changes had occurred - a majority (53%) of the coal moved in vessels of greater than 60,000. A full 20% of the trade moved in vessels greater than 100,000 dwt.

Projections show the trend continuing; in fact, in the year 2000, an estimated 58% of all steam coal exports will be carried in ships of 100,000 dwt or larger (Table 14).

The use of larger colliers in the United States-Europe coal trade would dramatically reduce cost per ton, to the great benefit of American producers. Costs from Hampton Roads, lowest of probable export locations, would be reduced approximately 30% if 110,000 dwt vessels were utilized instead

TABLE 14

Steam Coal Shipments

Projected Distribution of Steam Coal Shipments
in Ton-Miles by Ship Size - %

Ship Size (thousand DWT)

	20-	20-35	35-50	50-80	Sub Total	80-100	100-150	150+	Total
1980	10	13	22	43	88	5	7	-	100
1985	6	7	19	39	71	4	17	8	100
1990	4	6	13	27	50	6	27	17	100
1995	3	5	10	24	42	6	30	22	100
2000	2	4	8	21	35	7	33	25	100

Source: "Interim Report of the Interagency Coal Export Task Force," Draft for Public Comment, U.S. Department of Energy, January 1981, using as reported from original source of H.P. Drewry Shipping Consultants Ltd., September 1980, Arthur D. Little Inc.

of the 60,000 dwt colliers active in the U. S. trade (Table 15). Total transportation costs from the fields of Appalachia to Europe would decrease accordingly, with Hampton Roads again the low cost port (Table 16).

Unfortunately, Hampton Roads, America's deepest coal port, has a channel depth of only 45 feet, which limits vessels to size of 80,000 dwt. Sadly, the World Coal Study noted that 'Although vessels of 100,000 dwt call at all U.S coal harbors, those vessels normally depart partially loaded.' The Norfolk District Army Corps of Engineers confirmed this situation (Table 17). A 1980 survey by the Virginia Pilot Association further found that 33% of the bulk carriers calling at Hampton Roads could load deeper than the existing 45 foot channel.

B. Foreign Competition - A Step Ahead

The lack of adequate depth at American coal ports has left the U. S. an important step behind the competition in the race to supply the surging foreign demand for coal-cost.

South Africa, with reserves of 71 billion short tons of coal, enjoys domestic cost advantages over the United States because of lower production costs and the close proximity (300 miles) of the coal fields to a port. Additionally, however, South Africa benefits greatly from its ability to handle 150,000 dwt colliers at its Richards Bay facility.

TABLE 15

Cost to Europe Versus Ship Size

($/Short Ton)

Ship Size (DWT)	25,000	60,000	110,000
Approximate Port Depth Required[a]	36	44	53
Loading Port			
Hampton Roads	$ 17.70	$ 12.50	$ 8.90
Baltimore	18.10	12.80	9.10
Savannah	18.90	13.40	9.50
Mobile	21.80	15.50	11.00
New Orleans	22.10	15.70	11.10

Source: Arthur D. Little, Inc. estimates.

[a] Corresponding to fully-loaded draft plus 3'.

TABLE 16

Total Coal Transportation Costs(a) from Mine to European Port, for Various Coal Origins and Loading Ports

	Port	Total Cost Present(b)	$/ST Future(c)
N. Appalachia	Philadelphia(d)	$28.00-$28.40	$30.60-$31.00
	Baltimore	26.70-27.60	25.50-26.40
	Newport News	25.80	24.80
C. Appalachia	Baltimore	28.60-28.90	27.40-27.70
	Newport News	25.10-25.40	24.10-24.40
	Norfolk	25.50	24.50
	Savannah(d)	31.80	34.40
S. Appalachia (Alabama)	Mobile	27.50	22.30

(a) Includes rail rate, dumping or terminal charge, and sea cost in largest vessel that can be fully loaded.

(b) Present port depths and existing terminals.

(c) Expected future port depths and new terminals

(d) Port depth unchanged.

SOURCE: Arthur D. Little Inc.

TABLE 17

HAMPTON ROADS: Type vessels calling on

NAME	LENGTH	WIDTH	MAXIMUM DRAFT	DESIGN TONNAGE
EULALIA DELMAR	866	131	54'-9"	117,799
IBARAKI MARU	853	130	51'-2"	111,064
LONDON TEAM	840	128	49'-5"	104,850
MOUNT PELION	855	134	48'-6"	108,649
ORCO TRADER	856	134	57'-5"	129,882
PROSERPINA	840	106	46'-7"	80,013
ROBINA	860	132	52'-7"	114,865
SILVERLAND	842	128	49'-7"	103,738
TYNE BRIDGE	965	145	60'-6"	169,428
WORLD DUET	867	125	54'-2"	114,144

SOURCE: Norfolk District Army Corps of Engineers

Australia, also with abundant reserves of generally higher quality coal than South Africa, also enjoys transportation cost advantages over the United States. While these, too, are due in part to the close proximity of mine to port in Australia, the ability to load fully colliers over 100,000 dwt markedly decreases the cost of delivered ton of Australian coal. These advantages are not limited to the coal trade with Japan; because of the depth of Australia's coal ports, Australia can deliver coal to Europe for roughly the same price as American coal (Table 18). The advantage will grow when, if as expected, Gladstone, Newcastle and Port Kembla join Hay Point in having the ability to handle ships of 120,000 dwt vessels at the Roberts Bank and Neptune Terminals facilities in Vancouver.

Deeper channels at coal exporting ports and larger, more economical ships, would prove of little benefit without adequate channels at coal importing or receiving ports. Several world coal ports at unloading points can already handle ships of greater than 100,000 dwt; these include ports in the Netherlands, France, Great Britain and Japan, major trading partners of the U. S. (Table 19). More are planned (Table 20). So great are the cost advantages of larger colliers that ports, loading and receiving, are moving rapidly to be able to accommodate them. It is not surprising, over 80% of coal imports to Europe after 1990 are estimated to flow through countries having ports with depths in excess of 50 feet. (Table 21).

TABLE 18

·Selected Current International Steam Coal and Shipping Prices (averaged, U.S. 1981 dollars/tonne)

	Price FOB port	Ocean freight[a]	Delivered price	$/MBtu
U.S. east coast to NW Europe	$50	$18	$68	$2.60
Poland to West Europe	54	8	62	2.45
South Africa to Europe	43	13	56	2.05
Australia to Europe	44	26	70	2.66
U.S. east coast to Japan	50	28	78	2.95
South Africa to Japan	43	22	68	2.49
Australia to Japan	44	16	60	2.28

[a] This freight cost does not include additions of $6 to $10/tonne now charged as demurrage for those ships waiting to load at Baltimore and Hampton Roads

SOURCE: *Coal Week International*, Mar. 18 and 25, 1981.

TABLE 19

PORTS OF THE WORLD RECEIVING U. S. COAL WITH EXISTING OR PLANNED CHANNELS DEEPER THAN 45 FEET

ASIA

JAPANESE PORTS	MAXIMUM DRAFT IN FEET
Kimitsu (Kisarazu)	59.04
Kashima	62.32
Muroran	52.48
Kawasaki	54.12
Hirohata	55.76
Mizushima	52.48
Fukuyama	52.48
Chiba	55.76
Tobata	52.48
Kakogawa	52.48
Ohita	68.88

EUROPE

BRITISH STEEL PORTS	MAXIMUM DRAFT IN FEET
Hunterston	95.12
Port Talbot	46.97
Redcar	52.97

(continued)
TABLE 19

EUROPE

DUTCH PORT	MAXIMUM DRAFT IN FEET
Rotterdam/Europort	68.00

FRENCH PORTS		MAXIMUM DRAFT IN FEET
Le Havre		45.92
	Proposed	52.48
Marseille		61.00
Dunquerque		45.92
	Proposed for 1983	75.44
Montoire		40.016
	Proposed for 1983	52.48

PORTS OF GERMANY	MAXIMUM DRAFT IN FEET
Wilhelmshaven	47.00
NW Kraftwerke Niedersachsenbruecke only	
Emden	46.00

Includes arrangement by which coal vessels are lightened to 35 feet (into barges) at no extra cost to vessels before coming alongside.

ITALIAN PORTS FOR COKING COAL	MAXIMUM DRAFT IN FEET
Taranto	78.00

TABLE 20

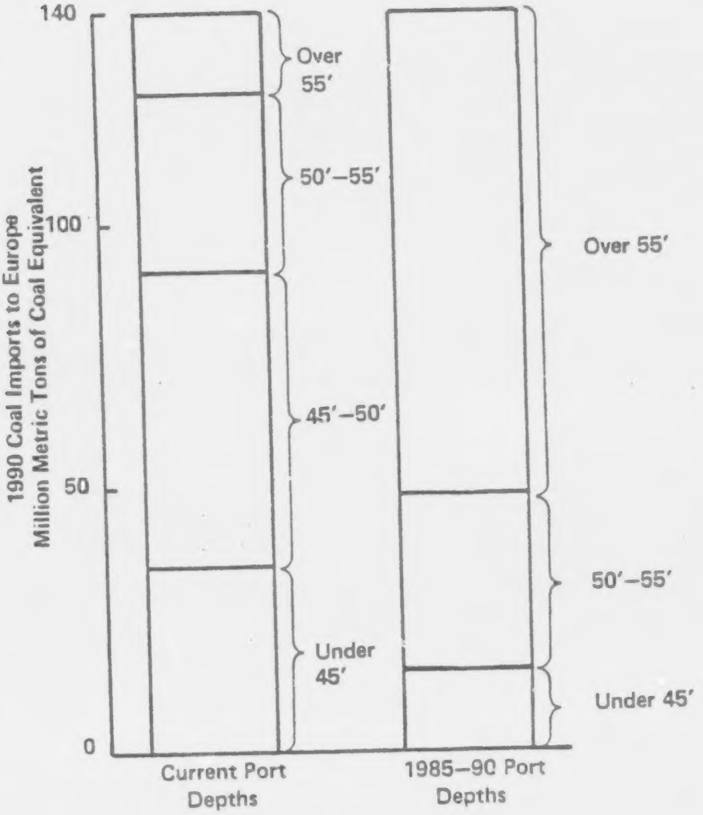
COAL PORT DATA FOR IMPORTERS

	Largest Curent Port		Planned Expansion		
	Depth (feet)	Ship Size (1000 DWT)	Depth (feet)	Ship Size (1000 DWT)	Remarks
EUROPE					
Belgium/Luxembourg	43	60	58	100	Antwerp
Denmark	49	120	55	120	Ensted, Stignsnaes
Finland	33	30	39	60	Inkoo (limited by depth of Baltic - 48 ft.)
France	54	110	58	140	Present; Lettevre Future; Fos
Greece	55	120	unknown		Makvonossos
Italy	49	100	59	150	Present; Toronto Future; Gioia Tauro and Milazzo
Ireland	25	25	59	100	Present; Dublin East Future; Shannon West
Netherlands	64	250	none		Rotterdam
Norway	33	30	none		Marcus Fjords
Spain	46	80	65	200	Gijon
Sweden	42	90	unknown		Oxelosund
United Kingdom	70	250	none		Hunterstan
West Germany	53	90	49	125	Present; Hansaport Future; Wilhelmshaven
PACIFIC RIM					
Japan	Unknown	120	Unknown	150	One port on Kyushu One port on Hokkaido
Korea	Unknown	Unknown	Unknown	Unknown	--
Taiwan	Unknown	Unknown	Unknown	125	--
Hong Kong	Unknown	Unknown	Unknown	125	--

SOURCE: Interagency Coal Export Task Force

TABLE 21

Port Depths for European Coal Importers



Source: Interim Report of the Inta Agency Coal Export & Task Force, January, 1981 , Arthur D. Little Inc.

The figures highlight what is a straight forward equation - our competitors can load deeper, in larger, more economical ships, and the ports in Europe and Japan can handle those ships. The result - lost exports for the United States.

C. The Dredging of Hampton Roads

The initial Norfolk District-Army Corps of Engineers' study indicated that deepening the Hampton Roads channel from 45 feet to 55 feet would result in a cost benefit ratio of 3.5 to 1. The study was based on the assumption that coal exports through Hampton Roads would reach 50 million tons the year 2000 -- a volume achieved in 1980! The Corps has recently indicated that an additional 20 million tons of coal would increase the cost benefit ratio to 6 to 1. Based on VPA projections, coal, oil, and grain movements of 92,000,000 tons in 1985 and 133,000,000 in 1990 would produce cost benefit ratios of 10.1 to 1 and 14.3 to 1, respectively:

	1985	1990	2000
Coal	75 M.T.	100 M.T.	200 M.T.
Grain	12 M.T.	18 M.T.	24 M.T.
Petroleum	10 M.T.	15 M.T.	15 M.T.
Cost - benefit ratio	10.1 - 1	14.3 - 1	28.0 - 1

These figures were based on a total 55 foot project cost that now approaches $500-million. A less costly alternative now being explored would involve the deepening of the outbound channel only to, initially, 50 feet, with a second phase depth of 55 feet. The 50 foot outbound project would cost only $35-40-million, yet would permit the loading of 100,000 dwt colliers on a regular basis, a substantial benefit in the world coal trade.

The benefit of coal export to the Commonwealth of Virginia is also substantial. A 1979 study by Old Dominion University indicated that from the mines of Virginia to the loading of colliers at ports, approximately one job is created for every 950 tons of coal that moves through the port. For every ten million tons of coal exported, over ten thousand new jobs are created throughout the state of Virginia. These new jobs would generate about two hundred million dollars in additional payroll to people throughout the Commonwealth. An extra twenty-two million dollars in taxes would accrue to state and local governments. In 1980, coal would contribute $18.42 of revenue to the economy of Virginia for every ton exported.

Nor is Virginia the only recipient of the benefits of coal export. Over half of the coal exported through Hampton Roads in 1980 was produced not in Virginia, but West Virginia. Several other states also utilized Hampton Roads as their outlet to the blossoming foreign coal market (Table 22).

It suffices to say that the benefits of deepening of the Hampton Roads channel would far outweigh the costs.

TABLE 22

States of Origin of Bulk Commodities Exported From The Port of Hampton Roads, 1980

COAL	Millions of Short Tons	% of Total
West Virginia	25.8	51%
Virginia	14.2	28%
Kentucky	3.5	7%
Tennessee	.5	1%
Ohio	.1	-
Pennsylvania	.1	-
Illinois	#	-
Georgia	#	-
Maryland	#	-
State not specified	6.1	12%
Total	50.6	99%

#Less than 100,000 tons.
Discrepancies in totals due to rounding

D. A Deeper Hampton Roads Channel - In America's Best Interest

The deepening of Hampton Roads would not merely benefit Virginia or those states heavily dependent on their mining economics. The dredging of Hampton Roads to facilitate additional coal export is in the best interests of the United States as a nation:

- The export of U.S. coal to our allies in Europe and Asia allows them to lesson their dependency of volatile supplies of Middle East oil and OPEC.

- The export of coal is a favorable factor in the balance of trade with foreign countries. Most recently, our balance of payment deficit was 6.1 billion dollars. The World Coal Study noted that U. S. coal exports of 300-400 million tons, at a price of $35/metric ton F.O.B. port, would represent $10-15 billion annually in foreign exchange earnings.

- The deepening of Hampton Roads, the Navy's major East Coast facility, will permit even the largest Naval vessels to return to or sail from Norfolk fully loaded. Earlier this year, the damaged carrier Nimitz was forced to delay its berthing at Norfolk until high tide provided adequate channel depth.

IV. CONCLUSION

The United States has reached a crossroads in the development of its coal export potential. A decision must be made now as to whether to grasp aggressively the opportunity provided by the tremendous surge in foreign demand for steam coal or be content with our position as a leading supplier in the stable metallurgical coal market.

The private sector has indicated a willingness to commit their resources in the drive to supply the world's coal needs. Without the strength of federal participation in the form of dredging, however, private companies may find their money wasted.

Decisions to dredge deeper channels and build coal terminals are calculated risks, to be sure. A myriad of factors can affect the ultimate 'return on investment.' Such risks can be minimized, however, by careful analysis and selection of projects.

Hampton Roads, blessed by its close proximity to the rich coal fields of Appalachia and a vast rail infrastructure built around it, represents such a minimum risk. Its past and projected future dominance leads inevitably to the conclusion that if any port can meet foreign competition through the development of additional facilities and the deepening of its channels, it is the port of Hampton Roads Private companies have invested millions of dollars on this assumption -- the Federal Government, for the good of this country, must now reinforce those decisions through the dredging of Hampton Roads.

Senator **Warner**. Thank you very much. You head previous witnesses I am sure explain why there are no longer long lines of colliers in the Port of Hampton Roads.

Do you agree with those reasons or do you wish to add some of your own?

Mr. **Payne**. The reasons are the rail regulations and the rail contracts. Now the demand is as heavy as ever, and we project that this year will be a record year. At one time earlier this year our piers were loading at an annualized rate of over 72 million tons a year, so the demand is there.

Senator **Warner**. It is not the demand. To get back to the question, they are not swinging on the hook anymore. The reason is?

Mr. **Payne**. Improved coal loading regulations.

Senator **Warner**. By whom?

Mr. **Payne**. By the railroads.

Senator **Warner**. Not the Federal Government?

Mr. **Payne**. Certainly not.

Senator **Warner**. In other words, again private enterprise came in, saw the problem, solved the problem?

Mr. **Payne**. That's right, with a little help from the State.

Senator **Warner**. With a little help from the State— I might add the Governor has been very active in this field and we communicate frequently on that.

I commend the state authority for the working in helping solve this problem because the colliers swinging on the hook as we say, old sailors say, in Hampton Roads, was one of the most dramatic means of conveying to the American public the need to solve these problems.

Thank you very much. Our friends from Maryland have arrived, and we will return now to Mr. Mayer, deputy secretary, the Department of Economic and Community Development, State of Maryland. Welcome.

Mr. **Mayer**. Thank you. Mr. Chairman, I will try to prepare some of this for you so we could go through this a little quickly.

STATEMENT OF HANS F. MAYER, DEPUTY SECRETARY, DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT, STATE OF MARYLAND

Mr. **Mayer**. My name is Hans Mayer of Maryland, deputy secretary of the Maryland Department of Economic and Community Development, and I am also chairman of Governor Hughes' export coal task force for the State of Maryland.

At the outset, Mr. Chairman, let me commend you and your role as well as those of your fellow Virginia State officials in working with our Maryland delegation and our State officials in making the Chesapeake Bay, with its major coal export ports at Baltimore and Hampton Roads, the key coal exist in our country. The Virginia officials and the delegations and the Maryland State officials have worked very well together.

I have to also at this time commend the efforts on the part of Senator Mathias who has worked untiringly in the last few years, as I am sure you are aware, to make dredging of the channel in Baltimore a reality. Senator Mathias has met with the highest officials of the Office of Management and Budget as well as the President in an attempt to move our project, and of course, thereby facilitating the export coal movement of our Nation.

There were hearings in Baltimore last year by the International Economic Policy Subcommittee. Governor Hughes and I did testify at that time, and we stated basically three concerns and positions that the State of Maryland would take with regard to the coal exports, the first being that we would fund, fully fund with State funds a dredge disposal site. We have appropriated almost $60 million of State funds for that and we will be completing that facility shortly.

Second is that it is the State position that while we are not opposed to some of the other types of facilities that we do have in ports, we will not own export coal facilities. We will let the private sector do that.

Third, we believe still very strongly that the Federal role, there must be a Federal role in dredging. Our State's comments at that time went on to point out that U.S. export coal customers' perception of our market and its dependability in the future would be largely shaped by a strong Federal leadership role. We this the role in signaling our customers or potential customers overseas that we do in fact have a national coal policy. We do not at this time in our view.

I would further suggest that if the administration had seized the opportunity to declare a national coal export policy with dredging funding and accelerated authorizations, one could wonder if long-term coal contracts would be being signed at this time with our European allies rather than finding ourselves in the awkward position of imposing sanctions on our friends.

At the time of last year's hearings, Senator, and you covered this a number of times this morning, with regard to this subject, you said there were coal ships, colliers, lined up everywhere. There is no question that those colliers aren't there now. Why? Two reasons—yes, the railroads have done a much better job in managing the coal delivery systems at the ports, but additionally, there is no market, and that is evident.

We have added, as you have been told, two new facilities. The Curtis Bay facility which is a ground storage facility, that is now operating. It will have a throughput of about 12 million tons a year. Consolidation Coal Co. by the spring of next year will add an additional 12 million tons to our capacity.

We can offer in Maryland our own depressing proof of what has happened to the market conditions. In August of 1981, slightly more than a year ago, 42 vessels registered for our coal piers. This past month, this past August, zero have registered. I think that is, I mean there is no better statistic in terms of explaining that there is nothing going on in export coal.

Why has this happened and what does this portend? First and foremost, while the export coal market, like any worldwide trade commodity, is subject to many vagaries, we are convinced that the current staleness in the coal market is in no small measure due to the failure of the administration to enunciate a clear export coal policy and to accompany that statement with actions which will allow potential customers to engage in long-term commercial transactions.

We will use the European example. This administration's policy has to be to encourage our European allies to develop an energy policy less dependent on Mideast oil or in the future, Russian natural gas. This is a matter of not only their but also our own national security since we do not wish us or them to be held hostage to an oil or gas embargo.

The administration twice this year has sent officials of the State Department and Commerce Department to Europe with this message and has even told our allies that dredging of the Port of Baltimore, the only authorized project with export coal capability, would begin this coming fiscal year. You can imagine the wonderment of our own State officials at this statement. I have attached for your perusal an editorial from the Morning Sun which is titled "Tall Coal Tales." It describes what we consider the administration's basic inconsistency in rhetoric with regard to the importance and opportunity of U.S. coal export and inaction on dredging brings about one sure result—confusion in embassies and private corporations abroad. I am told that the Department of Commerce will soon embark on a similar coal mission to the Far East, and we do wonder what in fact will be told to those people in the Pacific Rim.

Senator WARNER. Have you got a copy of that editorial?

Mr. MAYER. Yes, sir. It is attached to my testimony.

Senator WARNER. I want to make sure it goes in the record today.

Mr. MAYER. Next, it is obvious that the United States must reduce transportation costs to be competitive with other nations. We must remain competitive with nations such as Australia, Poland again, South Africa, and emerging Third World countries with coal resources in order to fully exploit our coal export potential. The full year of inaction and delay on dredging and confused coal policy has allowed both Australia and Poland to reassert their export roles and has seriously narrowed U.S. export coal market opportunity.

Another startling contradiction of the administration in this area is that both the private and local government sectors in Maryland's case have already met the prescription of the White House and OMB for New Federalism. The private sector, in the person of the Curtis Bay and Consolidation Coal Companies, have come forward and invested over $225 million in export coal terminals. The State of Maryland, as I mentioned earlier, is building a $60 million dredge disposal site to allow large vessels to carry West Virginia, Pennsylvania, and Ohio coal.

Maryland only pushes about 5 percent of the total amount of export coal through Baltimore, or it represents that amount, as well as Iowa and Illinois Grain, at the expense of the Maryland taxpayer.

The city of Baltimore has cooperated by issuing IRB's to back certain aspects of the coal projects. In short, we and the private sector have done our part to meet the prescribed formula, but unlike the New Federalism which has an aspect of gradualism in transferring cost and responsibility from the Federal to State and local levels, Federal policy as enunciated in the Senate bills; which incidentally have been inconsistent in themselves, would shift all harbor dredging costs, in our cast $400 million, and responsibilities, to the local scene immediately, jeopardizing current and future States' or private enterprise investment in all cases. We consider that an incredible contradiction.

Our Export Coal Committee as well as the Maryland Port Administration has followed with great interest and concern the various pieces of dredging legislation before the Congress. While we recognize that economic realities have doomed full Federal nonrepayable funding of dredging projects, we only see two pieces of legislation which are worthy at this time of serious consideration and support--H.R. 2857 sponsored by Congressman Biaggi and Congresswoman Barbara Mikulski, which now flounder in the House Public Works Committee, and Senate 2857 introduced by Senator Byrd and Senator Randolph. Both of these bills contain a continued fair Federal role in sharing dredging costs.

We can support a continued Federal role in the form of direct appropriations or revenue sharing from the customs receipts pools which are created by our ports. The point is that the administration must recognize the very substantial, if not paramount, interest they have in these projects not only for current security or balance of payment problems, but for future public works infrastructure and port development.

In the final analysis, if this administration or the Congress on its own does not resolve these serious inconsistencies in our export coal trade, the problems will disappear. Indeed they will, but they will disappear because the opportunity we now still barely have will be lost.

We can resolve these inconsistencies by referring through legislation in the final days of this session or early in the new 98th Congress the strong Federal role and thus enable the private sector, our State and local governments, to seize what we consider to be a once-in-a-lifetime opportunity.

The State of Maryland is committed to this goal. We know the subcommittee shares our hopes and we are prepared with you to meet this challenge.

I would be happy to answer any questions.

[The prepared statement of Mr. Mayer follows:]

STATEMENT OF DEPUTY SECRETARY HANS F. MAYER TO THE UNITED STATES SENATE SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES OF THE COMMITTEE ON ENERGY AND NATURAL RESOURCES - WASHINGTON, D.C.

September 16, 1982

Mr. Chairman and Members of the Subcommittee:

Thank you for inviting me to this hearing. My name is Hans F. Mayer and I am Deputy Secretary of the Maryland Department of Economic and Community Development, and I also serve as Chairman of Governor Harry R. Hughes' Export Coal Task Force.

The State of Maryland sincerely appreciates this opportunity to testify before the Subcommittee this morning on the most important topic of how the ports of the United States have responded to opportunities, and more specifically, what is the status of coal terminal development in our various states, at the end of the first full year after the export coal boom of 1980-81.

At the outset, let me commend your role Senator Warner, as well as those of your fellow Virginia state officials in working with the Maryland Congressional Delegation and our State officials on making the Chesapeake Bay, with its major coal export ports at Baltimore and Hampton Roads, the key coal exit in our country. Virginia officials have been most courteous and cooperative regarding their responsibilities in our authorized 50 foot dredging project, and we in turn have firmly supported your state's desire, under your past and current Governor to move forward quickly with authorization and initiate dredging in your own waters.

I would also be remiss if I did not commend members of our own Congressional Delegation, particularly Senator Mathias and his staff who have worked untiringly over the last two years to make dredging of the Channel into Baltimore a reality. Senator Mathias has met with the highest officials of the Office of Management and Budget as well as President Reagan himself in an attempt to move our project, and, of course, thereby facilitating the nation's coal exports at the pace we know they can and should proceed.

Last April in Baltimore, the Senate Subcommittee on International Economic Policy held important hearings regarding the "U.S. Competitiveness in International Coal Trade." Governor Hughes, as well as I, testified at that hearing and we stressed that the State of Maryland has some very definite views regarding its role in expediting the shipment of export coal through our State to foreign customers. Nothing has happened to alter those views and I will briefly reiterate our position:

1) Governor Hughes, fully committed to dredging Baltimore's Channel to 50 feet to facilitate large bulk vessels pointed our that Maryland's Legislature has appropriated the spending of over $60 million of State monies on the construction of a dredge disposal site at Hart-Miller Islands. This appropriation fulfills Maryland's original commitment with the Corps of Engineers in 1970 to provide a major spoil disposal site. I might point out that this massive burden is the largest State commitment in the U.S. for such projects, and that your own State of Virginia had, to its good fortune, a massive dredged disposal site at Craney Island fully constructed and funded by the Federal Government.

2) Second, it is the policy of the State of Maryland to facilitate export coal movements with its dredging commitments, licensing and zoning facilitations and solving local government problems, but it is not the intention of the State to construct or invest in export coal terminals.
3) There must be a continued federal role in the dredging process. Governor Hughes said last April that "Maryland has made its firm commitment to dredging...the time is now the Federal Government fulfill its obligation by providing an immediate appropriation to enable the Corps to commence dredging." Our state's comments went on to point out that U.S. export coal customers' perception of our market and its dependability in the future would be largely shaped by a strong Federal leadership role. The Federal role is crucial in signaling potential customers, particularly Europeans being lured by the Russian gas pipeline, that our country is serious about the export coal business.

If the Administration had seized the opportunity in 1981 to declare a national coal export policy with dredging funding and accelerated authorizations, one could wonder if long term coal contracts could be being signed at this time with our European allies rather than finding ourselves in the awkward position of imposing sanctions on our friends.

At the time of last year's hearing, lines of coal vessels were present under the Chesapeake Bay Bridge awaiting loading in Baltimore. Two massive export coal terminals, the Curtis Bay Coal Company project of the Island Creek Coal Company (10 milion ton per year capacity) and the Consolidation Coal project at Canton on the Harbor's eastern edge (12 million tons per year capacity) were under construction with at least two large other projects in the final planning stages.

Since last April what has happened? Last month the Curtis Bay facility did open--the first of the current generation of export facilities and we were proud of that accomplishment, and Consolidation is ahead of its summer, 1983 opening date. Yet with this promise comes the disappointment that the two other projects are shelved for the time being, and the lines at the bridge have disappeared. The lines have vanished not due to the utilization of an efficient booking system which prevents heavy demurrage, but also to the severe shortfall in export coal orders. It is expected that this nation's total coal exports will fall short of the record breaking 110 million export tons of 1981. We can offer our own depressing proof as to the national market conditions. In August of 1981, 42 vessels registered for our coal piers---this past month, NO, repeat ZERO, vessels registered.

Why has this happened and what does this portend for the great potential export coal trade of the United States?

First and foremost, while the export coal market, like any worldwide tradeable commodity is subject to many vagaries, we are convinced that the current staleness in the coal market is no small measure due to the failure of the Administration to enunciate a clear export coal policy and to accompany that statement with action which will allow potential customers to engage in long term commercial transactions.

Let us go back to the European example. This Administration's policy is to encourage our European Allies to develop an energy policy less dependent on Mideast oil or in the future, Russian natural gas. This is a matter of not only their, but also our own National security, since we do not wish us or them to be held hostage to an oil or gas embargo. The Administration twice this year has sent officials of the State and Commerce Departments to Europe with this message and has even told our allies that the dredging of the Port of Baltimore, the only authorized project with export coal capability would begin this coming fiscal year. You can imagine the wonderment of our State officials at this statement. I think the attached editorial from the Baltimore Morning Sun entitled "Tall Coal Tales" speaks for itself. This Administration's basic inconsistency--i.e., rhetoric with regard to the importance and opportunity of U.S. coal exports and inaction on dredging brings about one sure result--confusion in Embassies and private corporations abroad. I am told that the Department of Commerce will soon embark on a similar coal mission to the Far East and one wonders what "Tall Coal Tales" will be spun there!

Next, it is obvious that the U.S. must reduce coal transportation costs to be competitive with other nations. We must remain competitive with nations such as Australia, Poland, South Africa and emerging Third World countries with coal resources in order to fully exploit our coal export potential. The full year of inaction and delay by the Administration on dredging and a confused coal policy has allowed both Australia and Poland to reassert their export roles and has seriously narrowed U.S. export coal market options.

Another startling contradiction of the Administration in this area is that both the private and local government sectors in Maryland's case have already met the prescription of the White House and OMB for "New Federalism". The private sector, in the person of the Curtis Bay and Consolidation companies have come forward and invested over $225 million in export coal terminals. The State of Maryland is building a $60 million dredge disposal site to allow larger vessels to carry West Virginia, Pennsylvania and Ohio coal; as well as Iowa and Illinois grain at the expense of the Maryland taxpayer. The City of Baltimore has cooperated by issuing IRB's to back certain aspects of the coal projects. In short, we and the private sector have done our part to meet the prescribed formula, but unlike even the "New Federalism" which has an aspect of gradualism in transferring cost and responsibility from the federal to state and local levels, federal policy as enunciated in their Senate bills (which incidentally, have been inconsistent in themselves) would shift all harbor dredging costs (in our case $400 million) and responsibilities to the local scene, immediately jeopardizing current and future states' or private enterprise investment in all cases--an incredible contradiction!

Our export coal committee, as well as the Maryland Port Administration has followed with great interest and concern the various pieces of dredging legislation before this body and the House of Representatives. While we recognize that economic realities have doomed full Federal, non-repayable funding of dredging projects, we only see two pieces of legislation which are worthy of serious consideration and support--H.R. 2857, Sponsored by Congressman Mario Biaggi and Congresswoman Barbara A. Mikulski, which now flounders in the House Public Works Committee, and S. 2857, introduced by Senator Robert Byrd and Senator Jennings Randolph. Both of these bills contain a continued fair Federal role in sharing dredging costs...the key ingredient for a successful coal export program for the U.S. We can support a continued Federal role in the form of direct appropriations or revenue sharing from the vast customs receipts pools which are created by our ports. The point is that the Administration must recognize the very substantial, if not paramount, interest they have in these projects not only for current security or balance of payment problems, but for future Public Works infrastructure and port development.

In the final analysis, if this Administration, or the Congress acting on its own, does not resolve these serious inconsistencies in our export coal trade, the problems will disappear, but they will disappear because the opportunity we now still barely have, will be lost. We can resolve these inconsistencies by affirming through legislation in the final days of this session or early in the new 98th Congress the strong Federal role and thus enable the private sector, our state and local governments to seize this once in a lifetime opportunity. The State of Maryland is committed to this goal. We know this Subcommittee shares our hopes and we are prepared with you to meet this challenge.

I will be glad to answer any questions and have attached to my statement various articles of interest relating to the export coal situation in Maryland. Again, thank you for inviting us to testify on this most important subject.

Appendices

Newspaper THE MORNING SUN

City ______ Date June 11, 1982

Tall Coal Tales

Why is it that the Reagan administration keeps telling its European allies those tall tales about coal? First it was the State Department assuring leaders in Paris that the United States was making rapid progress on removing the major bottleneck to greater coal exports—the lack of deeper port channels to accommodate mammoth coal colliers. Now we have an assistant commerce secretary making similar remarks on a 10-day tour of Europe. New Reagan administration proposals, said Assistant Secretary William H. Morris, will lead to deepened East Coast ports "within five to seven years." That will be news to port officials—and to members of Congress, too.

What the administration is seeking is a major commitment by European nations to increase their long-term shipments of U.S. coal. But European industries are reluctant to do so because of high shipping costs due to loading delays at East Coast ports. The answer is bigger, more cost-efficient coal ships.

Unfortunately, these colliers require deeper port channels, and the administration has refused to consider undertaking such costly projects. Instead, Mr. Reagan wants the ports themselves to come up with the billions to dredge and deepen the shipping channels. That plan has gotten nowhere in Congress. Nor has the administration gotten anywhere in its discussions with Maryland officials over a possible compromise to finance deepening of Baltimore's port.

None of this has escaped the attention of European officials and industrialists. Besides, demand for coal is slack right now. It will take more than empty, optimistic rhetoric from the Reagan administration to convince them to sign up.

What the Europeans are looking for is a sign that the U.S. is serious about solving its coal-export problems. The fastest way to do that would be for Mr. Reagan to embrace the Baltimore port-dredging project. Congress approved this proposal over a decade ago, and now that environmental questions have been resolved, work could begin immediately. That would prove to the Europeans that Mr. Reagan means business. Tall tales just won't suffice.

THE EVENING SUN, Tuesday, June 8, 1982

With better port facilities

U.S. coal could offset Soviet pipeline

By Milton R. Copulos

SNAKING ITS WAY some 3,000 miles from the frozen wastes of Soviet Siberia to terminals in 10 West European nations, the Yamal pipeline was heralded as the final realization of the long-anticipated East-West trade bonanza.

To West European sponsors, it seemed too good to be true. Not only was Moscow going to sell them some 40 billion cubic meters of natural gas annually, it also was going to purchase $15 billion worth of equipment, technology, and materials from West Europe. The deal was even being financed by a consortium of West European banks offering government-backed loans.

In the U.S., however, the project was greeted with serious skepticism, as many, including Reagan administration officials, saw it as a threat to Europe's security. Although European officials publicly dismissed U.S. concerns, arguing that the Soviets were a more reliable supplier than the Middle East, many indicated privately that they would willingly consider alternatives. Since stimulating Europe's sagging economy was a major factor behind the pipeline project, they cautioned that any proposed alternative must address the economic as well as the energy consequences of the deal.

Finding a suitable alternative presented the pipeline's opponents with a formidable task. Any option would have to be capable of delivering the needed energy within the same time frame anticipated for the initial deliveries of Moscow's gas. It would have to create the same sort of investing opportunities. And it would have to do so with a more secure and reliable source of supply.

As difficult as the problem seems, an alternative to Soviet gas does exist. It consists of two elements: a joint venture between the partners in a Coal Export Investment Company joint venture between private firms in Europe and the United States to increase American coal export capacity, and the development of Norwegian natural gas reserves in the North Sea. Together, these projects not only will eliminate the need for Soviet gas, but will strengthen and stimulate the economies of Western Europe and the U.S. as well.

American coal has always been viewed by Europe as an important potential energy source as witnessed by the rapid increase in steam coal exports to European Economic Community members in recent years. The trouble is, present U.S. port and handling facilities cannot accommodate huge, 150,000 deadweight ton "super colliers" that are expected to carry the bulk of the world coal trade in the future. If American ports are not renovated to make provisions for these giants of the sea lanes, the U.S. will lose its market to such competitors as Australia, South Africa, and even Poland.

In these days of fiscal restraint, however, the traditional method of financing and conducting such renovations — with government financing and Army Corps of Engineers management — is no longer feasible. Moreover the delays (up to 21 years) would not permit the fast action current market conditions mandate. The solution: have the private sector finance and manage the port reconstruction.

This could be done by creating "Coal Export Zones," and "Coal Export Investment Companies." Coal Export Zones would be designated by the Department of Commerce at the request of a port. The award of the designation would allow them to take advantage of certain "fast-tracking" provisions eliminating red tape, recently approved in congressional committee, and to license Coal Export Investment Companies. The purpose of the companies would be to assemble the financing, expertise and project sponsors to renovate the port.

Among the partners in a Coal Export Investment Company joint venture could be European firms interested in making greater use of U.S. coal. This would provide an investment outlet for their capital, opportunities to sell equipment and technology and a chance to participate in the long-term profits of a U.S. coal boom. As such, this would provide even more economic stimulus than the proposed pipeline from Siberia.

The second element, the development of Norwegian North Sea gas reserves, may prove particularly timely. While the completion date for the Yamal pipeline is 1986, recent events cast doubt that it will be met. Moscow, starved for hard currency, has already begun to renege on its commitments to purchase technology and equipment from Western Europe, indicating that it intends to manufacture many components of the pipeline within the Soviet Union instead.

While this is bitterly disappointing to the project's European sponsors, many observers believe the Russians will find they cannot internalize the construction and will eventually have to go to outside suppliers anyway. Such delays, though, may well push the delivery date for the Siberian gas to 1990 or beyond — a date coinciding with the time Norway expects its North Sea gas to be ready for export.

Norway has enormous reserves of North Sea natural gas — more than four times the amount discovered on Alaska's North Slope. Developing these reserves is

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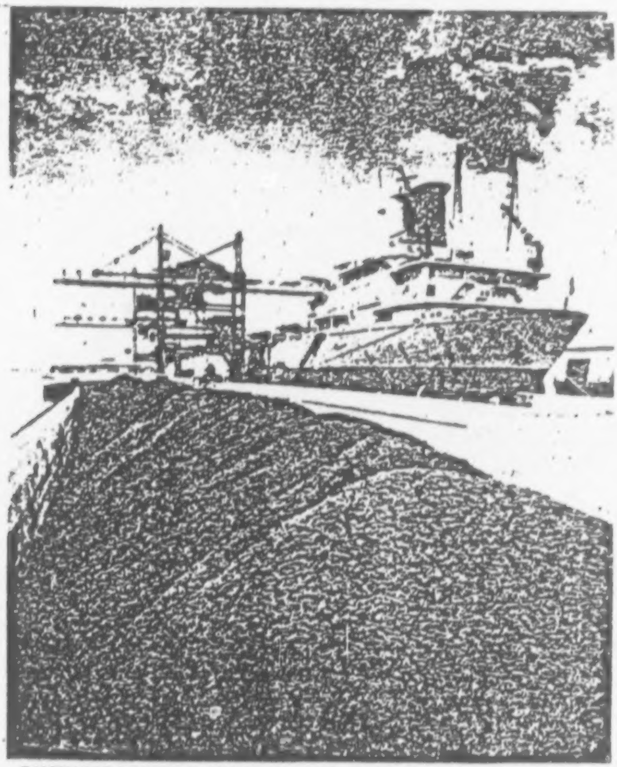
difficult and expensive, but a task well within modern technology's limits. Although there is some concern in Norway over the environmental and socio-economic impacts of a too-rapid development, the Norwegian government has indicated that it is willing to develop oil and gas reserves as aggressively as market conditions dictate.

To illustrate this, Norwegian officials frequently note that no oil company has ever had a request to develop a field turned down. These same officials, though, are concerned that their country's favorable attitude towards oil and gas development is not widely perceived. They emphasize in private discussions that Norway is not only willing, but eager to market its natural gas as soon as it becomes available.

It is evident then that Norwa[illegible]es represent a long-term alternative to Moscow's gas. Moreover, since the construction of a distribution system, storage terminals, and other necessary facilities would probably be beyond that nation's industrial capacity, Norwegian gas creates yet another opportunity for Europe to stimulate its heavy industries.

In short, a workable alternative to Moscow's gas exists and meets all of the criteria necessary to make it preferable to the Yamal pipeline project. It would stimulate the European economy, provide the necessary energy, and, most of all, be a secure and stable source of supply.

Milton R. Copulos is Director of Energy Studies at The Heritage Foundation, a Washington-based public policy research institute.



BALTIMORE'S BETTER 'PIPELINE'? — A coal ship is loaded at Port Covington

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THE EVENING SUN, Thursday, December 17, 1981

Sluggish economy has coal export plans dragging

By Paul D. Mindes
Evening Sun Staff

The coal fever that warmed the hearts of Baltimore port officials last summer has cooled in the chill economic realities of winter.

Construction has begun on two of the four coal terminals proposed to transform the Chesapeake Bay into an East Coast Persian Gulf for exporting America's vast coal reserves.

But four of the five partners of a proposed superport at Marley Neck abandoned the project this fall, and a fourth pier announced for Sparrows Point is stuck in "discussion" stages.

The revival of the nation's once-powerful coal industry banks on exports to industrialized nations fed up with the high cost of oil. But long-term supply contracts have proven elusive in the sluggish world economy and against lower coal prices from South African and Australian mines.

The lack of aggressive coal export policies from Washington also has hurt port development, according to state and local officials now scaling down their expectations for coal exports.

The new coal terminals won't require as many forwarders, stevedores, suppliers and cargo-handlers as other cargoes.

A coal impact study to be released tomorrow by the Greater Baltimore Committee "appears to confirm the non-labor intensive nature of the growth," said Donald DeVries, president of the GBC's Transportation Council.

"The vast majority of future employment gains will be realized in the railroad and coal mining industries," DeVries said.

Baltimore won't get all the federal aid it had expected to dredge its harbor. Debates over funding further delay the day when 100,000-ton colliers will be able to load coal here at rates competitive to South Africa and Australia.

Frequent mile-long coal trains could disrupt city traffic at 21 locations unless the government, railroad or coal operators pick up the $55 million tab for new bridges and other improvements.

President Ronald Reagan may eliminate the tax-free industrial bonds that coal companies covet to fund new coal terminals.

The boom forecast for American coal exports has slowed down in at least a short-term cycle some coal observers call "Coal 22":

- Coal companies, hurt by high interest rates, delay spending on new terminals until they can sign long-term supply contracts with Europe and Japan.
- Foreign buyers stall the negotiations that could supply such capital until they know which American ports will develop the best export facilities.
- And the ports wait for Congress and Reagan to resolve harbor dredging and rail transportation issues critical to develop new terminals.

Nonetheless, coal spokesmen still boost the long-range future of American coal exports.

"There is no doubt a tremendous optimism in the long run," said William Mason, president of Island Creek Sales Co., whose parent company, Occidental Petroleum, is building a new coal pier at Curtis Bay to open in 1983.

"The Europeans are gearing themselves by increasing their port size and converting utility plants [from oil to coal], but they're in a deeper recession than anything we might feel we're in."

But since last spring, when Baltimore and other ports raced for new coal terminals, "The situation has gone from sheer panic to stabilization," said Connie Holmes, vice president of the Coal Export Association.

Despite a 72-day United Mine Workers strike that shut down coal mines this spring, actual coal traffic through Baltimore has kept pace with 1980 exports.

Through November, 206 ships loaded about 11.9 million tons of coal at the Chessie Systems Curtis Bay pier and barge operations at Port Covington, compared to 212 ships loading 11.5 million tons through November 1980.

New coal terminals being built by Consolidation Coal Co. at Canton and Island Creek at Curtis Bay will raise Baltimore's export capacity from 12 million tons last year to 34 million tons by 1985.

But the $150 million superport at Marley Neck, proposed to handle 15 million to 30 million tons of coal annually, still sits on the drawing board.

Four of its five original investors dropped out, after raising doubts that it could compete against so many other proposed terminals on the East Coast.

A fourth pier, proposed by Bethlehem Steel to export 5 million to 10 million tons of coal at Sparrows Point, still is under discussion.

(cont'd.)

1

In the eight months since *The Evening Sun* explored the American coal exports, disappointed local and state officials are grim about the lack of federal policies and aid to deepen harbors and to improve rail access to traffic-choked ports.

State officia's complain the national coal policy statement issued last July by Commerce Secretary Malcolm Baldrige lacked concrete answers to dredging and transportation problems.

"Baldrige didn't say anything," said Hans F. Mayer, state under secretary of economic and community development and chairman of Gov. Harry R. Hughes' coal export task force.

"He just said it's an idea whose time has come. We support coal exports. We support legal foreign investments . . . We've gotten no more than that in terms of a national coal policy," Mayer said.

"It's still cheaper to buy coal from South Africa than America, and if we don't get dredging, we're not going to be competitive," he said.

Meanwhile, Reagan has scuttled Baltimore's chance to win full federal funding of its $243-million dredging project. Instead, after promising 11 years ago to pay to deepen the harbor, Congress appears ready to throw much of the costs onto state and local shoulders, probably through port user fees.

User fees could add $1.12 a ton to coal shipped through Baltimore, assuming the fees applied to cargoes requiring deep-draft vessels only. But even if port users underwrite the dredging costs, numerous coal officials doubt more than one or two ports actually will undertake the huge public works projects.

"I can't believe we'll dredge more than one port on the East Coast," said Joel Price, a Rohan Moseley investment analyst. "Baltimore was supposed to be dredged a decade ago. I question whether it ever will be dredged."

"We have never taken dredging to be a sure thing," said Ray Lichty, general manager for Chessie Systems in Baltimore. "The dredging is by a lot of peoples' estimates at least eight years away. With the volatile market and dramatic changes taking place, it's hard to look that far."

Chessie last spring announced a $400 million improvement program to increase its rail capacity to Baltimore coal terminals. But if no terminal goes up at Marley Neck, Chessie may cut its program by $125 million, Lichty said.

Increased rail traffic, however, definitely will disrupt cars and trucks at several major arteries in Baltimore. Chessie, the coal companies and government officials don't know who will pay for improvements to avert tie-ups.

"[illegible]here's planning, but there's no funding for grade separations. That's the way it goes," said Donald Klein, director of promotion for the Maryland Port Administration. "There's just so much we can do. We'll get more involved as it becomes more of a problem."

City planners have proposed a $55-million plan for new bridges and road changes to avert severe traffic jams at 21 locations from the 30-to-40 mile-long coal trains scheduled eventually to chug into the city each day.

Without bridge and road improvements, coal trains could disrupt major arteries near Curtis Bay and Canton—streets that carry up to 20,000 vehicles a day—for 15 minutes or more dozens of times a day.

The more acute grade-crossing problems "will not only generate community concern but may well pit one industrial user against another," said DeVries of the GBC. "This is a national issue in the truest sense of the word and demands some form of federal attention for its solution."

Rep. Barbara A. Mikulski, D-3rd, took testimony this summer on transportation problems accompanying coal export growth, but an aide to Mikulski does not expect full-scale congressional hearings until next spring.

Last spring, bulletins announced at an almost frantic pace efforts by New Orleans, Philadelphia, Mobile, New York, Norfolk and other American ports rushing to assemble coal-exporting facilities.

Now, coal and railroad executives expect some of these proposals will never materialize.

"It's like putting up a new town, and 10 big grocery store chains announce they're going to open up a store," said Mason, of Island Creek. "The fact that one or two of them drop out is not surprising."

Industry experts still believe the long-term trend for growth in American steam coal exports is unchanged. The pressure of skyrocketing oil prices has forced an elemental shift among the world's industrialized nations to convert their electricity generating plants from oil to steam coal.

Labor strife in Polish and Australian coal mines helped American steam coal exports surge from 2½ million tons in 1979 to 17 million tons last year.

Momentum for export contracts slowed this year, however, as European industrial powers stockpiled coal prior to the American mineworkers' strike last summer. Declining steel production and energy conservation further cut demand for coal.

Awaiting new facilities, coal and railroad officials are reducing costs by coordinating rail deliveries with ships waiting to load at port, after foreign buyers warned they may look elsewhere if U.S. port facilities didn't improve.

Ships now pre-register at Baltimore and return at a later date when their coal arrives at port, cutting the $15,000-a-day demurrage costs of idling at anchor until it's time to load their coal.

"Last year, we had 35 ships waiting outside Annapolis. Now we have only a half-dozen because of the pre-registration system," said Albert J. Knighton, a vice president of John S. Connors Inc., a ship agency.

Akira Gohnome, Japanese coal buyer for Nippon Steel which spent $50 million in demurrage fees last year, warned, "If the United States cannot make better port facilities, we have to diversify with more coal from Canada and Australia."

Between shipping costs and demurrage fees, Gohnome said, U.S. coal is $30 to $35 a ton more expensive than Australian coal.

Coal industry experts, who say demurrage fees are dropping, said long-term contracts are being negotiated. They predict coal terminals will expand gradually to meet the needs.

"The picture is fuzzy now because there hasn't been enough time," said Holmes of the Coal Export Association.

"There is not enough demand for all the terminals to be built by 1985," she said. "Some of the terminals may come back into the picture by the late 1980s."

2

THE EVENING SUN, Wednesday, December 16, 1981

Where have all the coal ships gone?

By Ross Hetrick
Evening Sun Staff

The armada of coal ships that once sat off Annapolis has disappeared.

A year ago freighters were stacked up waiting to load coal at the Chessie System Railroads coal pier. At one point more than 35 ships waited as long as two months to fill their holds.

But now there are only three or four ships off Annapolis waiting an average of 10 to 14 days for a coal berth.

The transformation began when the Chessie System, responding to complaints by shippers about the long waits established a system which one businessman described as the old bakery system of number taking.

"It was kind of a mutual agreement between the shipper and us," said Roy J. Edwards, assistant director of export traffic for the Chessie System. There are more than 80 ships scheduled to use the pier between now and the middle of May.

The coal boom continues to rage with the Chessie pier regularly setting new loading records. The railroad company, part of CSX Corp., expects to load close to last year's record 13.8 million tons at its Curtis Bay pier despite a two month coal miners' strike.

Ships must still come into the bay and be assigned a place in line by Chessie. But instead of standing in line, the ship can leave and either it or a substitute can show up at the assigned date.

If the ship or its proxy fails to return on the proper day, the owner must pay a penalty of $25,000 per day—a fine that has only been invoked a few times since the system was started in April, Edwards said.

The system does not entirely eliminate waiting. The coal ships still must anchor off Annapolis for a week or more until another ship finishes loading. "We want a fudge factor of five or six days," Edwards said, citing unexpected problems that might arise at the pier that could delay loading.

The solution to the waiting problem came after discussions between Chessie and various coal shippers. "It was done to help our customers and their overseas customers," Edwards said.

Waiting can be very expensive for a ship. An idle freighter can cost $15,000 a day and if anchored for over a month the price of a ton of coal can rise by $10 to $12. Now with the shorter waiting times, only $3 to $4 a ton is added, Edwards said.

Chessie revised the system in October so that ships now can register in Newport News, Va., to pick up coal in Baltimore. This eliminates the need for the ship to make the 150-mile trip up the bay just to get its assignment.

Chessie also allows a ship loading coal to register for another freighter which will come later, Edwards said.

While coal shippers would still like to see some changes in the system, they are generally pleased with it.

"It brought a sense of normalcy," said Albert J. Knighton, vice president of John S. Connor Inc., a Baltimore ship agency that represents many of the coal freighters.

Since fewer ships are idle waiting for coal, the price to charter a coal freighter has also dropped, Knighton said.

The awkward part of the system is the requirement to have the ship come into the bay to register, he said. However, he can appreciate Chessie's reasons for the restriction to prevent shipping firms "from playing games."

But he said the arrangement might be "refined" further.

Some companies that are not so happy about the new deal are the launch services that ferried men and supplies to the coal freighters.

"There's less business there," observed Owen W. Siler, the president of Ann-Bay Launch Co. an Annapolis firm started a little over a year ago when ships were stacked up.

Of six launch services existing at that time, only three are still active, Siler said. He said it was particularly hard during a two-month coal strike earlier this year.

When the ships were waiting for months, supplies for the crew and ship were taken out on the launches. Now the freighters just wait until they dock in Baltimore to take on the supplies, Siler said.

"There won't be any more than three launch services that will be able to survive," Siler said.

Newspaper journal of commerce

City Date 12/21/81

Vision of Chesapeake Bay As Major Coal Hub Blurs

United Press International

BALTIMORE — A vision of the Chesapeake Bay as the Persian Gulf of coal is severely hampered by sluggish economic conditions in the United States, a new study, and industry analysts, said late last week.

Earlier this year, with coal ships lining the bay, and four new coal terminals slated for the port of Baltimore, planners expected a boom in the industry that would create hundreds of new jobs and pump millions of tax dollars into the Maryland economy.

But a Greater Baltimore Committee report paints a stagnating picture for 1982.

"The vast majority of future employment gains will be realized in the railroad and mining industries, not in the port," said Donald DeVries, president of the committee's transportation council.

Two new piers under construction — by the Consolidation Coal Co. at Canton and the Island Creek Coal Co. project at Curtis Bay — will raise the Baltimore port's export capacity from 12 million tons last year to 34 million tons by 1985, analysts said.

Two other plans are still on the drawing board: The $150 million plan for a super pier at Marley Neck and a Bethlehem Steel project at Sparrows Point. Those plans could have added up to another 40 million tons when completed.

But four of five original investors have dropped out of the Marley Neck plan and the Bethlehem plan is still under discussion, even as 5,000 steelworkers in Baltimore ready for a week of layoffs after Christmas.

And the linchpin of the Persian Gulf vision, the dredging of the port so very large bulk carriers can dock, is snarled in the Reagan administration's budget-cutting plans.

Earlier this year, President Reagan scuttled a plan, approved by Congress in 1970, for full federal funding of the $243 million dredging project and put much of the cost on the already weary shoulders of the state and city economies.

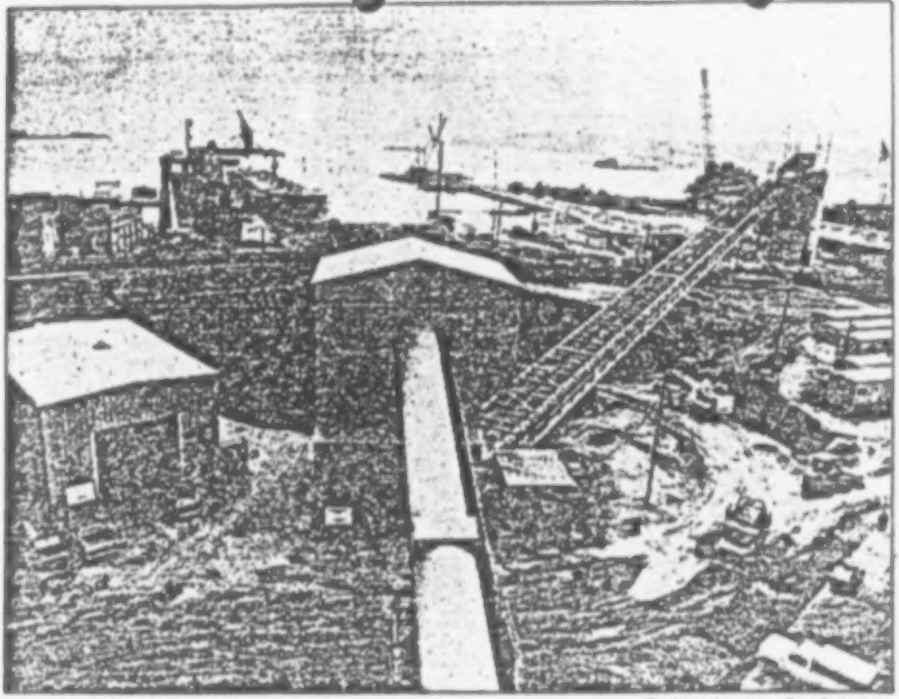
And a $400 million plan by the Chessie Systems railroad, a major coal transporter from the mines to Baltimore, is in doubt. Company spokesman Ray Lichty said if the Marley Neck plan does not materialize, the railroad may trim its expansion project by $275 million.

Still, the movement of coal into the port in 1981 has kept pace with 1980. The report said 206 ships were loaded with 11.9 million tons of coal through November, compared with 212 ships loaded with 11.5 million tons through November 1980.

Coal industry officials note that companies are reluctant to spend money on new projects until interest rates go down and long-term contracts with European and Japanese exporters are signed.

Foreign buyers, however, are waiting to see which ports develop the best facilities before they sign the contracts.

The News American, Friday, August 6, 1982



The News American - Fred G. Kraft Jr.

NEW COAL TERMINAL: Occidental Petroleum Corporation's $100 million Bayside Coal Terminal in Curtis Bay adjoins a B&O Railroad pier, visible at upper left.

New Bayside Coal Terminal will boost Baltimore exports

News American Staff

The most modern export coal terminal in the world was to be dedicated in Baltimore today.

Occidental Petroleum Corporation, the 18th largest corporation in the U.S., was scheduled to open its Bayside Coal Terminal in Curtis Bay at a ceremony this morning to reduce port congestion and speed the export shipment of coal throughout the world.

The terminal was built here because of Baltimore's access to the major coal producing states of West Virginia and Kentucky and because it is an international port.

According to officials, the loading pier will create about 100 jobs.

Occidental's two Maryland subsidiaries, Curtis Bay Company and Island Creek Coal Company, will operate the terminal.

Coal will be delivered to the pier by the Baltimore and Ohio Railroad. Once the coal reaches the Bayside terminal, it will be channeled into a car dumper, taken by conveyor to one of eight stacking tubes and then delivered to a ship.

The terminal will be capable of handling 100 or more loaded railway cars and will provide space for up to 150 empty ones. There will be ground storage space for 500,000 tons of coal. The loading pier was built to handle virtually any size vessel, officials said.

The terminal, whose construction was started in June 1980, cost an estimated $100 million, officials said.

Occidental's primary operations are in the petroleum, chemical and coal industries.

Newspaper MORNING SUN

City BALTIMORE Date 11/10/81

Appalachia congressmen tour Baltimore port

By Peter Meredith

What were four congressmen from Appalachia doing yesterday touring the port of Baltimore?

The answer is a four-letter word: Coal.

Millions of tons of coal from West Virginia, Pennsylvania, Ohio and Kentucky move through Baltimore these days on its way to customers throughout the world. The problem is, it isn't moving fast enough.

New coal-handling facilities are under construction, but Baltimore—and other East Coast ports—is still a bottleneck for coal exports.

Meanwhile, Representative Clarence E. Miller, a southern Ohio Republican, estimates there are 8,000 miners out of work in Ohio. Representative Nick J. Rahall 2d, a West Virginia Democrat and chairman of the Congressional Coal Group, says 6,000 union miners are laid off in his district alone. Both men believe increased coal exports could put men back to work.

"West Virginia can mine the coal," Mr. Rahall said yesterday. "There is no doubt in my mind that the coal can be mined and is ready to be exported."

The four congressmen—just a few of the 60 to 65 members of Mr. Rahall's caucus—were in Baltimore to learn first-hand about the port's attempts to increase its coal-export facilities. Their information came from port officials, port businessmen and railroad executives, one of whom, Ray Lichty, of the Chessie System, estimated private-sector investment in coal terminals and support facilities in Baltimore at $1 billion—$400 million by Chessie alone.

Sun photo—[illegible]

Coal-state congressmen listen to Baltimore's Barbara Mikulski. From left, Representative Nick J. Rahall 2d (D, W.Va.); Ms. Mikulski; and Representatives Harold D. Rogers (R, Ky.), Clarence E. Miller (R, Ohio) and Austin J. Murphy (D, Pa.).

If Appalachia wanted something from Baltimore, Baltimore wanted a commitment in return: support from the coal-state congressmen for attempts to secure federal funding for port development—particularly for moves to dredge the main shipping channel into Baltimore from 42 feet to 50 feet.

"What you have here is a roomful of people with mutual needs and mutual interests," Representative Barbara A. Mikulski (D, Md., 3d) told her colleagues as they met on the 20th floor of the World Trade Center.

"You are the group that produces the coal, you're looking for jobs and you're looking for jobs in the private sector.... I hope we can form an alliance where we can make a common push for transportation legislation."

At least one congressman said after the meeting he was inclined to support Baltimore's position on port development.

"I've been interested in this for some

See COAL, B4, Col. 1

COAL, from B7

time," said Ohio's Congressman Miller, a member of the influential House Appropriations Committee. "We need to produce this coal."

And Ms. Mikulski, confident an alliance had been formed, said she was considering taking steps to cement the relationship between Appalachia and Baltimore.

"I'm going to have to go down a coal mine," she said.

Reaching the ports others can't reach

By Rosalyn Winther

Economics of scale state that the larger a vessel is, the cheaper it is to operate, providing that is, it can berth

LARGER VESSELS have been restricted in the ports they can use and the cargo they can carry because of their deeper draught—many ports have water too shallow to allow such vessels to enter. Dredging is one solution, but is costly and may be detrimental to the environment. Another alternative is to design ships with shallow draughts. Mitsubishi Heavy Industries of Japan caught onto the latter concept and for nearly 10 years it has successfully designed and built commercial shallow draught vessels (SDV). Today Mitsubishi has gone several steps further by announcing a revolutionary ship design—the Ultra Shallow Draught Vessel (USDV)—which should achieve even greater savings.

Ten years ago conventional ships had a breadth to draught (B/D) ratio of 2.5 to 2.7 and length to breadth (L/B) ratios of about 6. The only economically feasible way to build a large ship while maintaining a small draught is to increase breadth, said Mitsubishi. Therefore the SDV has a wide beam with a B/D ratio of 3.5 and a L/B ratio of 5. These ratios enable a 150 000dwt vessel to have a draught of 15.24 metres or a 40 000dwt vessel, a draught of 10 metres. A conventional ship with a draught of 10 metres would be restricted to around 28 000dwt.

In stark contrast to these ships the USDV can be built as large as 105 000dwt at a draught of only 10 metres. This is based on a maximum B/D ratio of 6.5 and a minimum L/B ratio of 3.5. The beam is 1.8 times wider than the conventional SDV. According to the company the transportation costs of cargo, including fuel, will be reduced by about 35% as compared with the SDV.

Although the design of the USDV is a radical departure from conventional ship design, there are certain operating features which all shallow-draught vessels will have in common. Therefore, the experience of Mitsubishi in building SDVs over the past 10 years has put the company in a favourable position to deal with problems arising from vessels of this type. With wide-beam vessels, for example, propulsive performance has presented some difficulties. Water flow around the hull is different from the flow pattern observed around ships of conventional proportions. Stability rather than manoeuvrability was also a problem particularly with single-propeller SDVs. Slightly larger rudders have a part in solving this but special consideration to hull form and rudder area, means that SDV course stability can be achieved almost comparable to that of conventional ships, says Mitsubishi.

The USDV, developed after many years of extensive research work, is still in the design stage with tests being carried out at Nagasaki Technical Institute's model test tank. The basic concept of the hull is that of a large barge-like central structure with narrow propelling vessels on both sides so as to embrace the central structure. However, the final USDV design calls for the central and side parts to be integrated. The propellers are arranged very close to the port and starboard sides. Two tunnels are formed at the stern to permit smoother water flow around the propellers. Such an arrangement enables the ship to maintain a straight course easily, says Mitsubishi, because if the ship is forced to turn right or left the propeller placed on an extremely port or starboard side tends to produce additional thrust in the opposite direction. By changing port and starboard propeller speed independently and by employing two independent rudders, turning characteristics are good, and if variable pitch propellers are used even better manoeuvrability is attained; unmatched by conventional larger ship designs, the company claims. In the event of an accident, rendering one of the engines inoperative, operation is still possible with the single remaining propeller.

According to naval architect Hiroki Kihara, the USDV is more difficult to build than the conventional SDV—the latter is more akin to conventional ships than the USDV is to the SDV—but most of the outstanding problems have been solved and the company is confident in its ability to construct the new ships. Strength of the vessel has constituted a problem because of flatness and width. Conventional ships are mainly examined by viewing the hull as a longitudinal beam but for the USDV the hull girder concept must be considered also in the transverse direction. The USDV will be more expensive to build than an equivalent size a conventional ship, as the tried-and-tested traditional hull form structure has had to be sacrificed to comply with the new design criteria for SDVs. But, said Kihara, the flexibility and operational economy offered will more than pay back the initial building cost.

The USDV hull concept can cover a wide range of vessel types. The first USDV design was that of a crude carrier as was the first SDV, but Mitsubishi have just finished design work on a pure car carrier and a bulk carrier. Shipowners are interested in these designs although no firm commitments have been made yet. It may seem strange that shipbuilders are planning to build larger vessels when there has been a shift in the industry to building smaller ships which can more easily adapt to the changes in the shipping market. But Mitsubishi believes that the economic advantages of larger ships will eventually reassert themselves in world trade and that USDVs will be able to compete successfully due to the greater number of ports they will be able to use. Mitsubishi is not alone in this endeavour—three other Japanese concerns have also started to design such vessels—for the forward-looking owner perhaps?

Comparison of Mitsubishi's USDV against conventional shallow draught tanker design

	USDV	SDV
Length	230 metres	180 metres
Breadth	64 metres	36 metres
Depth	16.5 metres	15.3 metres
Draught	10 metres	10 metres
Grt	57 000 approx	24 600 approx
Dwt	105 200 approx	42 300 approx
Main engines	Mitsubishi-MAN 12V52/55 × 2	Mitsubishi-Sulzer 6RLB × 1
Hp	24 000ps total	11 850ps
Service speed	14.4 knots	14.1 knots
FOC/DW × Vs × 24 (gr/ton mile day)	1.86	3.03
(Index)	(abt 61)	(100)

Source: Mitsubishi Heavy Industries

THE EVENING SUN, Friday, August 6, 1982

Dedication today

Curtis Bay pier poised for coal rush

By Ross Hetrick
Evening Sun Staff

Born of the coal fever that swept Baltimore's maritime community in recent years, the port's newest coal pier is scheduled to be dedicated today.

But the ceremony comes as coal exports are stunted by the world's economic malaise and other proposals for coal terminals have been put on indefinite hold.

The facility at Curtis Bay, in the industrial outskirts of South Baltimore, was built by the Curtis Bay Co., a subsidiary of Occidental Petroleum. It is the first coal terminal to be built in Baltimore in several decades.

Located next to the port's major coal pier operated by the Chessie System, the pier will eventually be able to handle 10 million tons annually.

Planning for the Curtis Bay pier began in 1979 when coal exports from Baltimore began to soar, fed by increased demand from European utility companies trying to reduce their dependence on Middle East oil.

In 19[illegible] exports jumped from 7 million to more than 9 million tons. They have steadily gone up since and will reach about 13 million tons this ye[illegible]

But in the last year the coal boom has lost some of its drive.

While the Chessie System has [illegible] to use its coal pier through [illegible], the outlook for 1983 is not encouraging. "Everything points to a slowdown next year," said [illegible] Roy Edwards of Chessie's coal export department.

Large coal stockpiles in Europe, underutilized steel mills around the world and a sluggish world economy have put something of a damper on coal fever. Also Polish coal, which was out of the picture for the past few years, has again become a force in the world market.

Casualties of the declining market include two proposed coal piers in Baltimore.

A so-called "super" coal pier, which could handle 30 million tons annually, was planned at Marley Neck in Anne Arundel County. But that project was stopped in its tracks in October 1981 when [illegible] of the five companies participating in the plan dropped out.

Another proposal to convert an old ore dock at Bethlehem Steel's Sparrows Point steel mill has yet to go beyond the talking stage.

But plans to build a coal pier at the former Canton Marine Terminal by the Consolidation Coal Co., a subsidiary of Conoco, are still on track. The $100 million project is expected to be completed in mid-1983. Like the Curtis Bay pier, it will have a storage area and will be able to handle about 10 million tons a year.

Both the Consolidation and Occidental projects are somewhat insulated from the marketplace since they both have long-term contracts to supply coal to foreign buyers.

Consolidation has agreements with a major German mining firm and the Irish Utility Board. Charles N. Gilmore, president of Curtis Bay Co., said Occidental also has long-term contracts, but declined to name them.

The new facility at Curtis Bay is a breed apart from its older neighbor. Whereas coal is kept in rail cars lined up behind the Chessie pier, the new facility is capable of storing up to 300,000 tons of coal in giant mounds and then retrieving the coal as ships come in.

The entire complex cost somewhat under $100 million, the company said.

The dedication is actually a bit premature—the storage area is completed, but the actual pier will not be ready until the end of the year.

"We're just about exactly on schedule," said Gilmore. He explained that the company was faced with the choice of having the dedication this summer or a year from now and decided on the earlier date.

But even with the pier unfinished, Curtis Bay Co. is using the Chessie pier to load its coal. Since April half a million tons of coal have been dumped in the storage area and about 300,000 of that has been loaded on ships.

"Generally I have to say it was an excellent start-up," Gilmore said. "We're well satisfied."

Two of the people expected to attend the dedication will be Occidental chairman Armand Hammer and Sen. Robert Byrd, of West Virginia, the Senate minority leader.

Coal

Coal mission 'sells' US logic in Europe

By Vanya Walker-Leigh, Paris

A 27-PERSON coal export mission to Europe, headed by William W. Morris Jr, assistant secretary for Trade Development at the US department of Commerce, spent 10 days last month in Madrid, Rome, Milan, Paris and Belgium to project the US as the 'logical, long-term coal supplier', according to Morris's statement to the press in Paris.

The mission included heads of coal producing companies, civil servants, Congressmen and a representative of the Association of American Railroads. Visits to each country involved bilateral talks between company representatives and prospective buyers, as well as an audio-visual presentation of the US coal industry and transport infrastructure.

Amongst points made at presentations were: US East Coast ports, at present able to take ships of up to 80 000dwt, would be deepened to permit unloading of ships of up to 150 000dwt in a few years, under a new system proposed by the Reagan Administration, allowing ports to recoup improvement expenditures by charging higher fees; average waiting time at ports has now been reduced to four days; the US would be able to ship at least 150m tonnes of coal by 1990, 225m tonnes by 2000; and that coal reserves are around 475bn, owned by 3 000 producers controlling 6 000 mines, which are interested in attracting foreign capital.

Morris told the press he expected Italy to become the US's leading customer, followed by France, the Netherlands and Spain. Talks in France were held with the Association Technique de l'Importation Charbonnière, France's coal import monopoly, which operates under the supervision of the ministry of Industry, and Charbonnages de France. CDF has a 15.5% stake in the Hawley Coal Mining Corp, West Virginia, and two stakes in Canada—12% of Quintette Mining, British Columbia, and 15% of the Coldspur Mine, Alberta.

No long-term contracts are expected to emerge in the immediate future: one member of the mission said that Europeans were acquiring Polish and S.African coal at around $41 per tonne, while US coal producers could not make money unless they sold at $50. The French also expressed considerable concern at railway rates inside the US, and prospects for further increases if the railways were deregulated. Morris made clear that the Administration opposed deregulation of 'export rail rates', and had filed a brief against the deregulation citation at present before the Interstate Commerce Commission.

Australian ships in joint coal venture

OUT OF THE wash of bans which from last July held a fleet of flag of convenience (foc) ships idle off Australia's NSW coast for periods up to four months, has come a deal which will take two Australian-manned carriers into the overseas coal trade. An agreement has now been signed between six Australian seagoing unions and the Hong Kong-based shipowner, Prompt Shipping Corp (PSC). The unions involved are the officers' Merchant Service Guild (MSG), engineers, radio officers, seamen, marine cooks and marine stewards.

The foc action last year affected more than 30 ships and all of them, after waiting varying periods, left the coast without the cargo of coal they came to load. The action was taken partly as a protest at the absence of Australian crews in the coal trade and partly against foc crew conditions.

The new agreement provides for two Australian-manned ships to be chartered by a consortium of Japanese shipping companies and PSC with the first of the Australian crews to be brought into the trade from Sydney/Newcastle to Japan within six months from April 30. According to the MSG, the Australian-manned ships will operate in a consortium which will involve eight carriers nominated by the Japanese-Hong Kong owners. It is understood the other ships will fly flags of convenience.

The unions say that the agreement also recognises as a fundamental condition that the introduction of Australian flag ships into the coal export trade will mean the phasing out of foc ships operated by the consortium. The agreement states that it should be further understood that Australian maritime unions intend to continue policies and actions aimed at the complete elimination of foc registries. The unions stress that despite the agreement, which they regard as a significant breakthrough, they will continue to pursue policies which have as a primary aim that export cargoes are no longer carried in foc vessels.

Coal market should look to the future

THE CURRENT international market in coal is far too concerned with the short term and lacks the stability necessary for sustained growth. This was the conclusion drawn by J. van Oldenborgh, director of transportation for Shell Coal International, for delegates to a recent London conference. This was partly due to the relatively small size of the market, on which small absolute volume changes had a pronounced effect, but to a large extent, he went on, it was a result of the lack of mature attitudes/relationships which prevented, among other things, the application of true long-term contracts which would assist early investment in better transport systems. Oldenborgh told delegates to the conference, organised by Transport magazine, that it was desirable that cif sales dominated to affect the trade at minimal risk.

Seaborne coal movements are expected to double to more than 400m tonnes a year by 1990, based mostly on a growth in the steam coal trade. Oldenborgh pointed out that growth in steam coal demand was not too sensitive to growth in energy demand as it was largely based on oil substitution. He also noted that notwithstanding this growth coal would only account for 20% of seaborne bulk commodities. Current maximum size coal carriers are around 125 000dwt and although 160 000-170 000 dwt ships for specific trades would be introduced through the decade, he expected that to be the maximum size for some time to come. Although increasing bunker rates made the bigger ships attractive, 'the economics of size rapidly disappear at currently available discharge rates of 20 000 tons a day at the larger terminals'. Since a considerable proportion of the seaborne coal will continue to move directly to smaller ports in the 2-5m tons throughput, it will be generally more economical to supply the coal in considerably smaller vessels, he said. The overall investment in transport from minehead to customer needed for this expansion was estimated by Oldenborgh to be $16-17bn.

THE SUN, Monday, September 13, 1982

Long-term contracts expected to dominate coal exports

By Peter Meredith

After two years of frenzy, coal exports from Baltimore are settling down.

The spot coal market, which caused the backlog of ships in late 1980 and 1981, is dead. Instead, the port is going into a period in which long-term contracts appear likely to dominate the business.

The change is dramatically illustrated by the fortunes of the Chessie System coal pier at Curtis Bay, which is still the port's only terminal handling export coal (two new terminals are under construction). No ships have registered to load coal at the pier since July.

This does not mean the pier is idle. Chessie is working its way through a lengthy backlog of ships registered earlier this year. As of last week, there were 47 ships to go, enough to keep the pier loading coal full-tilt for another two months.

By mid-November, the picture may look very different. Roy Edwards, who works in Baltimore for Chessie's coal export traffic department, says no one has come forward to claim the next available date for loading at the pier, which is November 18.

"That date's been the same for the last couple of months," Mr. Edwards said.

"We have had indications that people are looking at loading in December, but they're holding back because they're obligated to take the next available spot," he said. "Under the current rules, no one appears to want to load coal November 18, and with the market what it is, no one wants to commit themselves."

The port's steamship agents make it clear that there is still a demand for coal out of Baltimore. "We know there is business," said Albert J. Knighton, vice president in charge of bulk for John S. Connor, Inc. "I know of a dozen vessels to one destination that are waiting to register."

What has changed is that demand for spot coal, loaded for immediate delivery regardless of transportation costs, has vanished.

Instead, coal is being bought by regular customers with long-term contracts to meet, who can pick and choose when to load their coal instead of doing it at the railroad's convenience.

At its piers in Newport News, Va., Chessie has already run through the backlog of preregistered ships and has altered its registration system to allow shippers some flexibility in picking loading dates. Mr. Edwards says that may happen in Baltimore, too, "once the queue runs itself out."

Is the coal boom over?

Connie Holmes, who follows coal exports for the National Coal Association, expects total U.S. exports this year to be very close to last year's record figure of 110 million tons.

"We're looking at between 108 and 110 million tons this year," she estimated.

Within that overall total, however, the amounts shipped by individual ports vary.

"If you look at the data you see a decided shift between New Orleans and the East Coast ports," Ms. Holmes said.

Through July, New Orleans shipped 4.5 million tons of export coal, compared with 8 million tons in the first seven months of last year.

Figures for Hampton Roads, Va., were 37.9 million tons for the first seven months of 1982 compared with 24.4 million tons for the same period of last year, and figures for Baltimore for the period were 7.1 million tons in 1982 and 6.6 million tons in 1981. Both Baltimore and Hampton Roads were hurt last year by a coal miners' strike.

How Baltimore will end the year remains to be seen, but both the railroad and the steamship agents say the latter part of the year may be slow.

If the Chessie pier in Baltimore follows its sister pier in Newport News, loadings may drop off noticeably when the backlog of ships disappears. Tonnage at the Curtis Bay pier in August was 1.1 million tons; tonnage at Newport News, which has almost double Baltimore's capacity, was only slightly higher, at 1.2 million tons. (The Chessie pier at Newport News is one of two major coal terminals in the Tidewater area; the other is the Norfolk & Western pier.)

This year has seen port after port, from San Francisco on the West Coast to Wilmington, N.C., on the East Coast, shelve projects for coal export facilities. Two have been shelved in Baltimore.

But although the spot market has died, the long-term market looks relatively bright. In Western Maryland and Pennsylvania, coal companies are developing mines that will bring a steady supply of coal through Baltimore.

Last Wednesday, for example, Tanoma Coal Company and Barnes & Tucker Co. dedicated a new underground mine in Western Pennsylvania with an estimated life of more than 37 years and an average annual output estimated at 650,000 tons—all of it for export.

The mine represents a $71 million investment, and the venture has an international flavor. Tanoma is a wholly owned subsidiary of Pohang Iron and Steel Company, Ltd., of Korea, and Barnes & Tucker is a wholly owned subsidiary of Alco Standard Corporation, of Valley Forge, Pa.

The mine, which at full production will employ 326 workers, will produce metallurgical coal for the iron and steelmaking industry in Korea. Current plans are to ship the coal by truck from the mine to a nearby Baltimore & Ohio Railroad siding, whence it will move by rail to Curtis Bay.

The Tanoma mine is only a small part of the world coal picture, but Ms. Holmes at the National Coal Association says earlier projections of modest export gains for U.S. coal through 1990 (up to 143 million tons a year) are still on target.

"We're redoing the figures right now, and really we don't anticipate great changes," she said.

Senator **Warner**. Thank you, Mr. Mayer. We will defer questions, but I think you have made very solid observations. It is distressing to hear that statistic about the dropoff between August 1981 and 1982 in your report.

Thank you for joining us. I understand one witness was en route but had air traffic problems which prevented his appearing here. Both Mr. Pitre, vice president of marketing and planning, Canada Steamship Lines, is en route, and Mr. Tozzoli of the Port Authority of New York and New Jersey. Their statements will be admitted to the record.

[The prepared statements of Mr. Pitre and Mr. Tozzoli follow:]

TESTIMONY OF:

J. FREDERIC PITRE
VICE-PRESIDENT, MARKETING AND PLANNING
CANADA STEAMSHIP LINES INC.
MONTREAL, QUEBEC

ACCOMPANIED BY:

ALLAN I. MENDELSOHN
WARD & MENDELSOHN, P.C.
WASHINGTON, D.C.

TO THE : SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCE
SEPTEMBER 16, 1982

ON THE TOPIC OF:

U. S. EAST COAST COAL PORTS -

AN INTERIM SOLUTION TO DREDGING

ENERGY AND MINERAL RESOURCES

EAST COAST COAL PORT TESTIMONY

INTRODUCTION

Canada Steamship Lines is currently participating in the transportation of 13 million tons of U.S. Appalachian coal exports to Europe, Japan and Canada. The Appalachian coal that we ship to Europe and Asia is carried in the largest coal carriers that exist in the world today.

We often read and hear that U.S. ports are not equipped to handle large coal carriers due to a water depth restriction. What most Americans do not realize is that the United States coal ports on the Great Lakes are already shipping Appalachian coal to Europe and Asia in 150,000 DWT vessels. The U.S. coal ports on the Lakes use technology developed by Canada Steamship Lines (CSL) to transfer Appalachian coal from U.S. ports in Ohio to very large coal carriers at the entrance to the Great Lakes.

U.S. ports on the Great Lakes now have the ability to load vessels requiring a water depth of 60 feet or more. U.S. coal ports on the East Coast can have immediate access to deep water by using similar techniques developed by CSL for the U.S. Great Lakes coal ports. For a nominal transfer cost, Canada Steamship Lines would put the East Coast coal ports in a position to load the largest ocean-going coal vessels that exist today.

We do it for the U.S. coal ports on the Lakes--we can easily do it for the U.S. coal ports on the East Coast.

COMPANY BACKGROUND

Canada Steamship Lines is the largest shipping company on the Great Lakes. We have been in the Great Lakes shipping business for almost 100 years. We serve all of North America's major steel mills, electric utilities and cement plants.

We are a wholly owned subsidiary of the CSL Group Inc. Our parent corporation also owns Canadian shipyards, the largest busing company in Canada, a major trucking company and a rail car freight forwarding company.

Canada Steamship Lines operates 33 ships, 5 tugs and 1 bunkering barge. During each shipping season we carry 30 million tons of bulk cargo including 13 million short tons of U.S. Appalachian coal.

For each of the last 5 years our fleet has carried over 15% of total U.S. coal exports to all worldwide destinations including Canada. For almost as long as CSL has been in existence, we have been providing U.S. coal exporters with a reliable and cost competitive service.

GREAT LAKES EXPORT COAL SHIPMENTS

The U.S. Great Lakes Ports export approximately 18 million tons of Appalachian coal to Canada and 2 million tons of Appalchian coal to Europe and Asia. U.S. Lake ports began their recent participation in non-North American coal exports when U.S. East Coast coal ports became congested. The Lakes ports are staying in the export coal market because of their ability to provide large ocean-going coal carriers with deep water.

Over 45 million tons of coal is shipped each year on the Great Lakes. There are 8 coal ports on the Great Lakes located in Lake Erie, Lake Michigan and Lake Superior.

On Lake Erie, there are 5 coal ports handling 32 million tons of coal per year. They include Conneaut (9 million), Ashtabula (5 million), Toledo (12 million), Sandusky (6 million) and Erie (500,000). These ports have the designed capacity to handle 25 million more tons of coal with no additional investment required.

Lake Michigan is serviced with one coal port at Chicago. It handles about 3 million tons per year and has the capacity to handle an additional 5 million tons of coal.

Lake Superior has two coal ports one at Superior, Wisconsin and one at Thunder Bay, Ontario. Both were very recently built and are among the most modern coal ports in the world today. These two ports currently handle 7.0 million tons per year and are designed to handle at least 10 million more tons of coal.

We hear so much about the lack of coal port capacity in North America. Yet today there exists 40 million tons of additional coal port capacity on the Great Lakes with no new investment required. These coal ports have much more combined experience in handling coal than all of the other coal ports in North America.

One major advantage of the Great Lakes coal ports is ground storage availability. The Great Lakes ports have a ground storage capability of more than 12 million tons. Loading sytems at the ports include the capability of conveyor belt loading from ground and silo storage and for direct rail car-to-vessel transfers. Designed coal loading rates vary between 5,000 and 10,000 tons per hour.

The coal ports on the Great Lakes are serviced by all of the major railroads in North America. The Lake Erie coal ports are serviced by the Chessie System (both the C&O and the B&O), Conrail, the Norfolk Southern (NS) and the Bessemer and Lake Erie (B&LE) railroads.

The scheduling of coal shipments on the Great Lakes is greatly facilitated by an Ore and Coal Exchange programme. The Lake Erie railroads support the operation of the Ore and Coal Exchange in Cleveland which coordinates the assembly of cargoes at the ports with predicted vessel arrivals. Because many of the movements are between stock piles at origin and stockpiles at destination, ships can schedule to the open docks avoiding costly queuing.

The Chessie Railroad System carries 11 million tons to the Lakes and services the port of Toledo directly. The Norfolk Southern (NS) railroad delivers 6 million tons of coal and services its dock at Sandusky, Ohio.

The Bessemer and Lake Erie Railroad delivers almost 9 million tons of coal to the Lakes every year to its dock at Conneaut. Conrail transports almost 7 million tons of coal to the Lakes servicing its dock at Ashtabula and the Port of Toledo.

The Belt railroad with interline connections with the L&N, ICG, CR railroads carries 3 million tons of coal to Chicago every year.

Both Canadian and U.S railroads service the Coal ports located on Lake Superior. In Canada, both the CNR and the CPR combine to carry 3 million tons a year to Thunder Bay. While in the U.S., the Burlington Northern railroad carries 4 million tons to Superior, Wisconsin.

Coal from practically every coal mining district finds its way to the Great Lakes including over 30 million tons of Appalachian coal. Almost 15 million tons of West Virginian coal is shipped through Great Lakes ports. Other Appalachian coal includes 9 million from Pennsylvania, 7 million from Kentucky, 1 million from Ohio and even some from Virginia and Tennessee.

The Indiana and Illinois coal mines deliver 3 million tons of coal to the Lakes every year.

Over 7 million tons of Western coal is carried on the Lakes. Montanna and Wyoming coal mines ship 4 million tons to the Lakes and Alberta and British Columbia coal mines ship 3 million tons on the Lakes.

European and Japanese coal buyers use the Great Lakes export coal route for the following reasons:

1. The Great Lakes route is congestion free;

2. The St. Lawrence River ports have up to 100 feet of water available;

3. Some coal buyers are able to combine coal with iron ore shipments thereby facilitating the use of very large vessels resulting in lower freight rates for both the coal and the iron ore;

4. Other coal buyers are able to consolidate various shipments of coal for coal going to the same destination; and

5. Many coal buyers take advantage of lower rail freight rates because many Appalachian coal mines are closer to the Great Lakes than the East Coast.

In 1981, the Great Lakes coal route proved to be very competitive and extremely efficient for the almost 2 million tons of Appalachian coal which reached world markets via the Lakes. Most of the coal exported through the Lakes was Appalachian coal railed from the coal mines to the Lake Erie coal ports.

In 1982, U.S. Great Lakes coal ports are continuing to supply European and Japanese coal buyers with a congestion-free cost-competitive and deep water coal route.

THE CSL COAL CONNECTION

In 1981, Canada Steamship Lines set up a monthly coal transfer schedule together with Thyssen Carbometal Inc., of New York, using the 160,000 DWT. ocean vessels, the M.V. WIDAR and the M.V. THOR.

The WIDAR and the THOR loaded approximately 100,000 tons of iron ore at either Sept Iles, Quebec or Port Cartier, Quebec, and then anchored in the deep water in the Bay of Sept Iles to receive about 60,000 tons of coal directly from CSL self-unloaders.

Two CSL self-unloaders loaded coal at Lake Erie ports, then carried the coal out of the Lakes to the mouth of the St. Lawrence River where the vessel-to-vessel transfers took place.

The self-unloaders took less than 12 hours to discharge up to 30,000 tons of coal and even discharged simultaneously at rates totalling 10,000 tons per hour into the holds of the WIDAR and the THOR. Both vessels departed from Sept Iles at a draft of 60 feet destined for Rotterdam where the ore and the coal cargoes were unloaded.

The advantage of this coal transfer system is that all transfers were done in midstream from the 30,000-ton self-unloading Lake vessels to the 160,000 DWT. ocean-going vessels avoiding the additional costs of the St. Lawrence transshipment ports or contamination of coal cargoes.

In addition to the WIDAR and THOR, Canada Steamship Lines and Thyssen also put together the largest single shipment of coal ever exported from North America.

The total cargo of 165,000 short tons of metallurgical coal was loaded on the M.V. YEMANJA from six CSL self-unloaders. Four self-unloaders were loaded at the Port of Conneaut, Ohio and two at Sandusky, Ohio. The coal was transferred directly from the self-unloaders into the YEMANJA while at anchor in the Bay of Sept Iles, Quebec, in less than four days.

The coal cargo was delivered to Nippon Steel in Japan. Coordinating this coal movement for Nippon Steel was Nittetsu Shoji Co., Ltd. of Japan.

The 1981 coal shipments were so successful that, in addition to Thyssen and Nippon Steel doubling their tonnage through the Lakes in 150,000 DWT. vessels, new European coal buyers purchased Appalachian coal through U.S. Lake Erie coal ports to take advantage of deep draft ports.

The Association Technique de l'Importation Charbonnière (ATIC) of France purchased 450,000 short tons of coal through the Lakes in 1982. Their coal was shipped in 145,000 DWT. size vessels. The ATIC ships were loaded at the entrance to the St. Lawrence River in a total elapsed port time of 3 days each.

S.A. Intercommunale Belge de Gaz et de l'Electricité (INTERCOM) of Belgium, is buying almost 2 million tons of U.S. coal this year of which over 300,000 tons will be shipped through the U.S. Lakes coal ports. These shipments started in June, when four CSL self-unloaders transferred 116,000 tons onto a Belgian owned bulk carrier. Intercom has since purchased another 100,000 ton shipment and plans its final 1982 Lakes shipment in October.

In a virtual carbon copy of the YEMANJA operation, the first CSL direct ship-to-ship transfer of the 1982 season amounted to 163,000 net tons of metallurgical coal sold to Nippon Steel by Thyssen Carbometal in conjunction with the Japanese trading house, Nittetsu Shoji Co. Ltd. It involved the 170,000 DWT SIR ALEXANDER GLEN, chartered from Anglo-Nordic Shipping Limited of New York.

The export coal originated from mines located in Pennsylvania and was hauled by the Bessemer and Lake Erie Railroad to Conneaut, on the shores of Lake Erie. The season's first coal transfer operation involved six CSL self-unloaders and was completed in about 3 days. The shipment arrived in Japan on schedule in mid-July.

In addition to the coal transfer, the SIR ALEXANDER GLEN simultaneously took on bunkers while at anchor in the deep water. Approximately 7,000 metric tons of fuel was pumped from a bunkering tanker in less than 30 hours.

Nippon Steel is planning its final 165,000 coal shipment via U.S. Lake Erie ports in November 1982. The shipment will again involve six CSL vessels and take from two to four days to complete.

CSL has pioneered a major technological innovation in North American coal exports. We have given the U.S. coal ports on the Great Lakes access to deep water. As a result, these ports are now playing a cost-competitive role in U.S. coal exports destined for Japan and Europe.

As I stated earlier, the same transshipment principles can be applied to the U.S. coal ports on the East Coast. U.S. coal exporters can become much more competitive in the world export coal market by using this technique on the East Coast.

DEEP WATER EAST COAST PORTS

What CSL proposes to do is to apply a variation of its Great Lakes type vessel-to-vessel transfers on the American Eastern Seaboard.

Partially loaded coal vessels from Hampton Roads, Baltimore or Philadelphia could be topped-off by CSL self-unloaders in the Delaware Bay where there is 60 feet of water. CSL vessels would be loaded at the East Coast ports at the same time as the large coal carriers are partially loaded. The CSL vessels could then meet the ocean going vessels in the deep waters of the Delaware Bay.

We, at Canada Steamship Lines, do not feel that vessel-to-vessel top-offs in the Delaware is the final solution to deep water problems on the East Coast. However, we do believe we can offer an interim solution or a temporary alternative to dredging.

For an additional top-off cost of $1.00 to $2.00 per ton, vessels of up to 150,000 DWT size can be fully loaded with coal. Offsetting the top-off costs would be savings in vessel freight rates achievable by using larger size vessels on the East Coast Ocean freight rates would be reduced by $3.50 to $15.00 per ton depending on the difference in the size of vessel and the distance of the coal delivery.

Already European and Asian coal buyers have committed 2.5 million tons of coal to CSL's system, if it could be put in place immediately. These buyers of U.S. coal would ensure that at least 20 of their coal shipments from the U.S. would be in 100,000 to 150,000 DWT type vessels.

We have discussed our concept with coal producers, coal exporters, U.S. railroads, and all of the East Coast coal ports. All of the parties who have reviewed the concept with us have been favourably excited by our proposal. It is a proven system that is already in place for U.S. ports on the Great Lakes. With minor modifications the CSL system can from a technical point of view be implemented with very little delay.

Implementing this system would enable U.S. East Coast coal ports to:

- service the largest coal ships in the world today;
- identify the extent to which U.S. deep water ports are required to keep U.S. coal exports competitive;
- allow proponents of dredging U.S. coal ports to economically assess the viability and potential utilization of deep water ports;
- quantify the financial advantages of deep water on U.S. coal prices; and
- permit time to assess the environmental impact of deep water dredging.

While dredging projects are underway, U.S. coal ports on the East Coast can immediately begin servicing very large coal carriers as their counterparts on the Great Lakes have been doing for the last couple of years. Implementation of a system which would ensure that U.S. East Coast ports can load large vessels will also increase the immediate security of energy supply to European and Asian consumers of U.S. coal.

CSL, alone, has sufficient self-unloader capacity available in 1982/83 to allow for the loading of over 25 million tons of Appalachian Coal in 150,000 DWT vessels.

It was a logical step for CSL to apply the techniques we used for the U.S. Lake ports to the East Coast. When we originally approached various parties with the concept of bringing our unloading service down from the Great Lakes to the United States East Coast, we thought it was only a question of bringing our vessels down there and arranging for the loading and selecting the transshipment areas.

Then, as now, we were prepared to bring our vessels down to the U.S. East Coast so that the service could be started within as short a period of time as two weeks to one month, depending of course on working out contractual arrangements, clearances, and similar technical details.

Once we began seriously to draw up our plans, we were told that we might be in violation of a piece U.S. legislation, know as the Jones Act of 1920 (46 U.S.C. S883).

THE JONES ACT

The Jones Act, which in one form or another has been in the U.S. statute books for many years before 1920 and is still in the U.S. statute books today, is borrowed from the old English mercantile law of the 18th Century. Its principal purpose is to protect or reserve the domestic waterborne commerce of the United States only for U.S. built vessels, owned by U.S. citizens, and flying the U.S. flag.

Let me say at the very outset that we understand and do not wish in any way to interfere with the United States policy of reserving its domestic coastwise trade for its domestic vessels. But we just did not believe then, nor do we beleive now, that the unloading service we would be providing off of the U.S. East Coast could ever be viewed as domestic United States trade. Nor do we think that the Jones Act was ever intended to cover the kind of service we intend to operate.

After all, every shipment we would be carrying would never be destined to return to the United States or to a U.S. port. All of them would be destined to ports in Europe or Japan.

Moreover, the mere fact that the coal would be transshipped in U.S. territorial waters, we believe, does not make this a domestic U.S. carriage, particularly when everyone recognizes that the coal would be in the export or foreign trade of the United States and would be carried directly to Europe or the Far East.

We also believe that the service we could provide would be very much in the national interests of the United States, because it would not only increase U.S. exports of coal, but it could well make the United States a more competitive and reliable world market for coal than it is today.

We in Canada are well aware that some of the Europeans have tried to justify their interest in the Soviet natural gas pipeline on the fact that they could not get reliable competitively priced coal shipments regularly from the United States. Our service could have helped the United States at least in part to meet that European criticism.

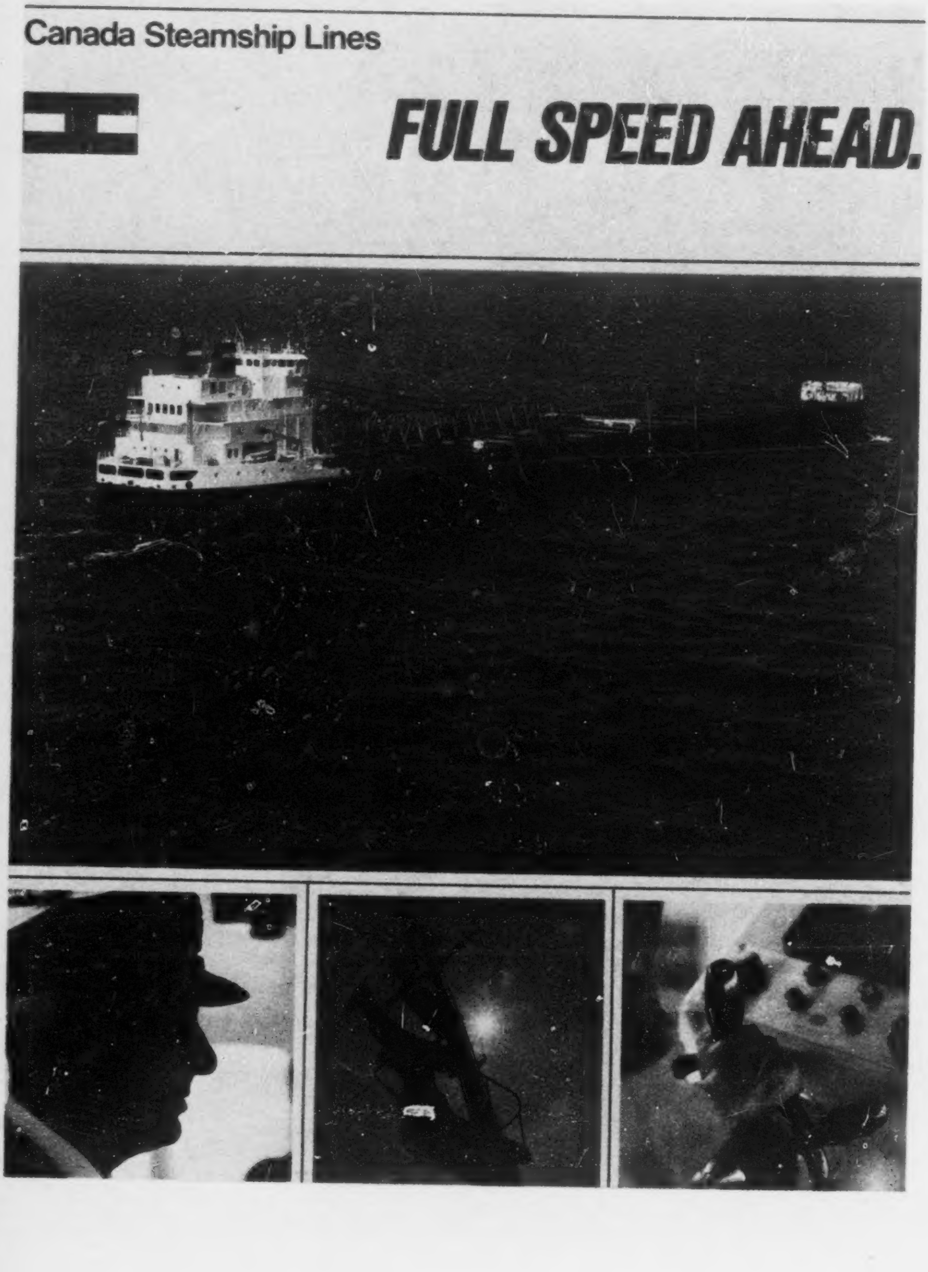
In any event, we have since learned that, despite all of these considerations, we are nevertheless required to apply to the U.S. Customs Service to see whether our proposed operation can be conducted consistently with the Jones Act or whether a waiver can be granted either administratively by the Customs Service or legislatively by the Congress.

CONCLUSION

Canada Steamship Lines has provided U.S. coal ports on the Great Lakes with access to deep water. We have the technology to do the same for the coal ports on the U.S. East Coast.

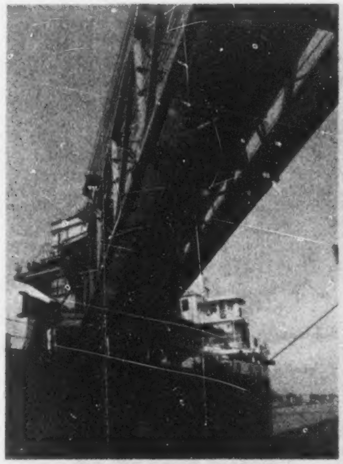
We can offer the United States an interim solution to dredging that is technically viable and economically sould. However, we fully intend to comply with all the rules and procedures set down by the United States Government.

We cannot help but hope that our service can be started on the East Coast reasonably soon. It would not only be in our interests but every bit as much in the interest of the United States Government not to mention the American coal industry and supporting infrastructure.



Canada Steamship Lines

FULL SPEED AHEAD.



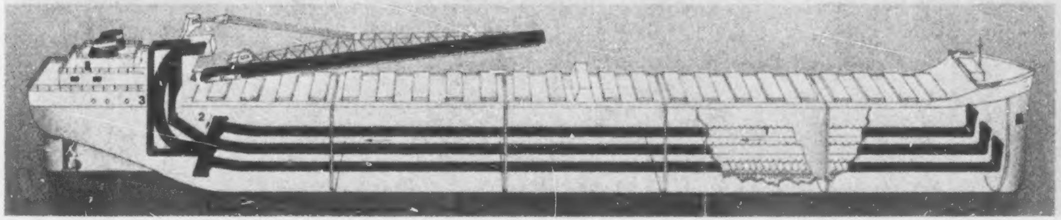
ECONOMICAL.
EFFICIENT.
INNOVATIVE.

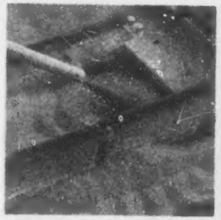
The Canada Steamship Lines Self-Unloader. It is a totally self-contained system that can unload up to 6,000 tons per hour automatically without additional manpower or equipment from the shore. A prime example of innovation by the Canadian shipping industry, it has saved many of our customers significant stevedoring and shore equipment costs.

Uniquely efficient, it is ideal for bulk cargo, such as ore, stone, coal or grain. Because all cargo can be handled selectively and separately, loads can be uniform; comprised of different grades of a commodity; or composed of different products.

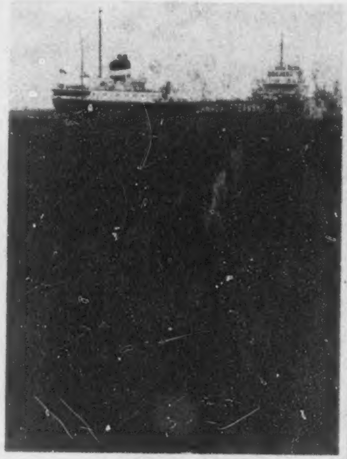
A Canada Steamship Lines Self-Unloader in Action.
1. The cargo falls by gravity through gates onto the conveyor belts running from bow to stern.
2. Two shuttle transfer belts receive the cargo and feed it to a loop belt positioned on the center line at the stern of the ship.
3. The load is fed to a loop belt elevator from the transfer belts onto the outer belt and is then trapped between the outer and inner belts and carried upwards in a semi-circle to be discharged at the upper end onto a 250-foot boom conveyor.
4. Final discharge to shore is via the boom conveyor which places the cargo on the dock in 90-foot piles, up to 220 feet from shipside.

BUILDING ON THE BASICS.





Bulk shipments. Grain. Coal. Ore. Cement. Stone. The basic building blocks of our economy. Our fleet can carry them all. Efficiently. Expediently. And Economically. Because that's what we specialize in at Canada Steamship Lines. In fact, we carry over 30 million tonnes per year. And whether our cargo is needed here in Canada, across the border in the U.S., or halfway around the world, we can handle it. Thanks to our extensive and versatile fleet.



CARGO FOR CONSUMERS.

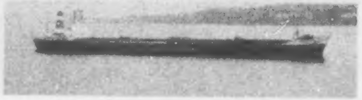
Package Freight. We handle over a half-million tonnes of general cargo every year. From steel products to canned goods to forest products, we offer cartage, warehousing and transportation. In fact, we offer shippers the least expensive method of moving freight between the Upper and Lower Lakes. Our operation is a cost-efficient alternative to moving goods by all-rail or all-truck methods.

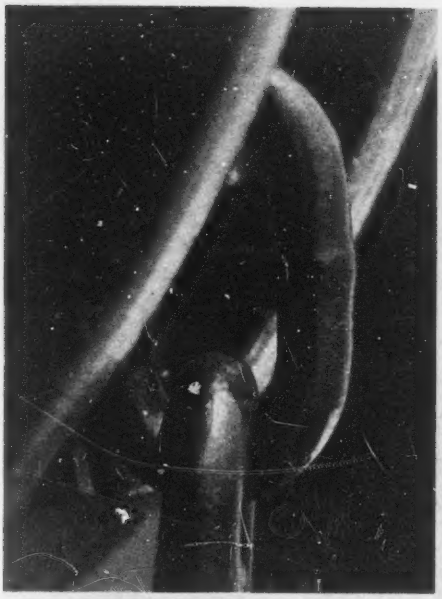
With terminals strategically located in Thunder Bay, Windsor, Hamilton and Valleyfield, we've got a network for handling general cargo that provides our customers with convenient and easy access to all areas of the Great Lakes and the Atlantic Coast.

Consistent with our reputation for leadership in the Canadian Marine World, we helped pioneer innovations such as palletizing shipments for easier handling; and loading via fork lift trucks through the side doors of our package freight vessels. This is the kind of innovative thinking that helps us continue to give our customers reliable packaged freight service – always with an eye to fuel efficiency and cost control.

CHARTING OUR FUTURE.

Since the turn of the century, Canada Steamship Lines has been serving the primary industries of Canada. We are recognized by North America's major steel, iron ore, grain and hydroelectric industries for our reliable, efficient operations and our innovative thinking. Today, in Canada, we handle more cargo than any other fleet, and thanks to a major expansion programme which is already underway, we will not only increase our capabilities for serving the Great Lakes Area; but also expand our horizons to include the oceans of the world.





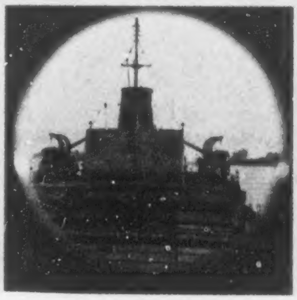
A VITAL LINK.

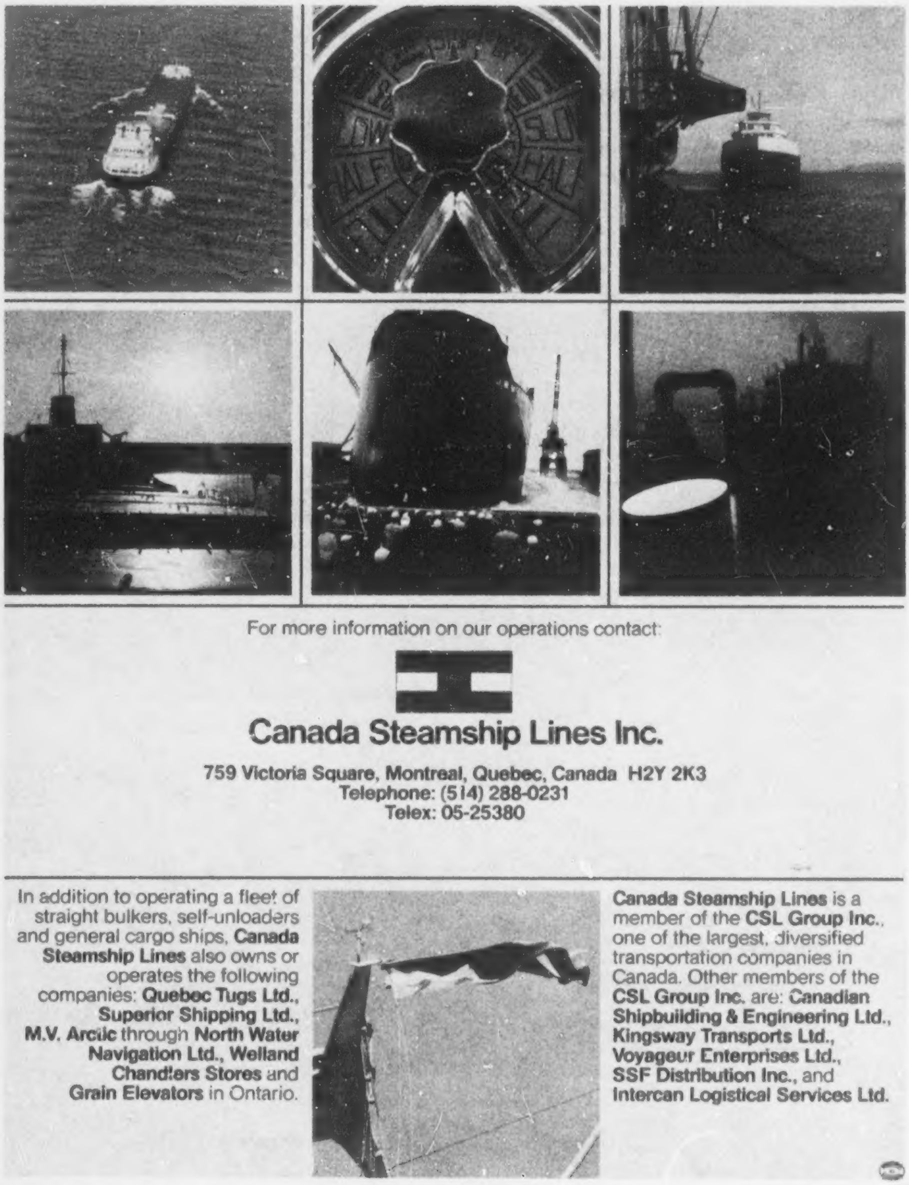
Transportation. Key to bringing supplier and manufacturer, shipper and receiver together. And in these days of rising energy costs, it's more important than ever to find the most efficient means of transportation possible.

Water. Forming the largest transportation highway in the world and the most cost-efficient means of bringing products to market.

The Great Lakes. The St. Lawrence River. Oceans of the world. These are the highways that Canada Steamship Lines sail every day, delivering products between cities, provinces and countries.

Canada Steamship Lines. Canada's largest shipping company. With well over 30 vessels in our fleet and multi-phase expansion planned for the future, we are in the process of developing an even more diversified and versatile fleet. We're known in the Canadian Marine World for our leadership, our innovative attitude towards transportation, and our many contributions to modern shipping technology.





For more information on our operations contact:

Canada Steamship Lines Inc.

759 Victoria Square, Montreal, Quebec, Canada H2Y 2K3
Telephone: (514) 288-0231
Telex: 05-25380

In addition to operating a fleet of straight bulkers, self-unloaders and general cargo ships, **Canada Steamship Lines** also owns or operates the following companies: **Quebec Tugs Ltd.**, **Superior Shipping Ltd.**, **M.V. Arctic** through **North Water Navigation Ltd.**, **Welland Chandlers Stores** and **Grain Elevators** in Ontario.

Canada Steamship Lines is a member of the **CSL Group Inc.**, one of the largest, diversified transportation companies in Canada. Other members of the **CSL Group Inc.** are: **Canadian Shipbuilding & Engineering Ltd.**, **Kingsway Transports Ltd.**, **Voyageur Enterprises Ltd.**, **SSF Distribution Inc.**, and **Intercan Logistical Services Ltd.**

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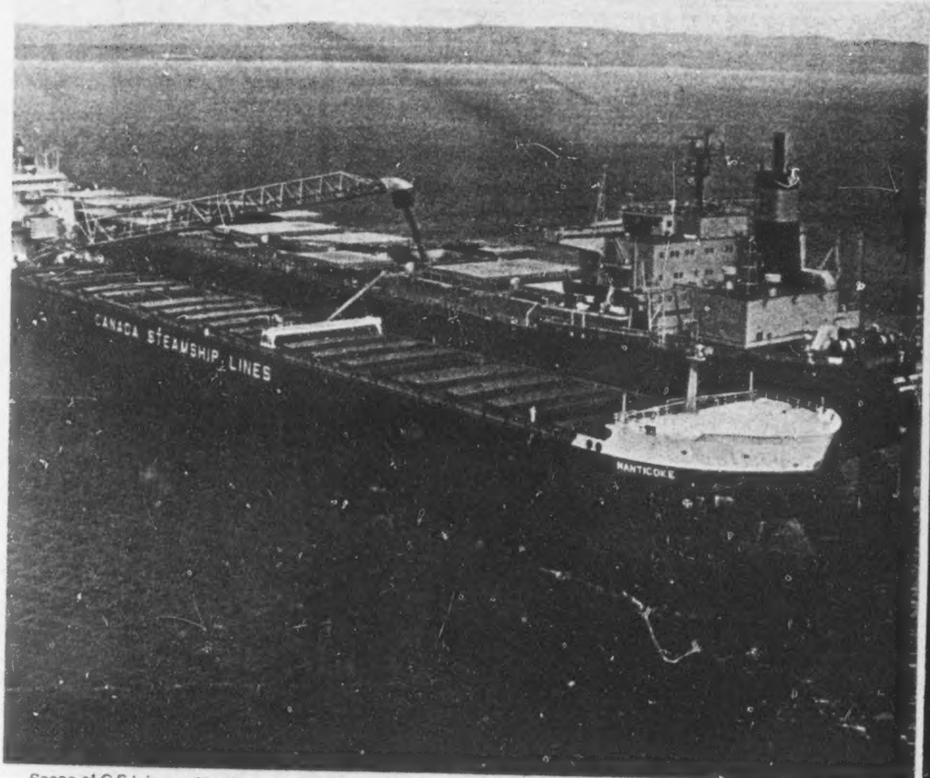


Scene of C.S.L.'s mv. Nanticoke transferring coal cargo into Coal Venture in Sept-Iles Bay for export to Europe.

C.S.L. WORLD COAL CONNECTION

Text on page 4

THE C.S.L. WORLD COAL CONNECTION

A MAJOR TECHNOLOGICAL innovation in maritime transport launched in North America has begun to revolutionize the coal shipping industry on a world scale.

Canada Steamship Lines Inc., Montreal, Que., largest shipping company on the Great Lakes with a fleet of 39 vessels having a total cargo carrying capacity of more than 750,000 tons, is the pioneer of a unique system for bringing U.S. export coal to world markets.

The movement involves the use of self-unloader vessels for mid-stream transfers of coal to large ocean-going bulk carriers at the St. Lawrence deep water port of Sept-Iles. This economical bulk delivery system has great potential for application in other waters, inside and outside the North American hemisphere.

In 1981, the Great Lakes coal route proved to be a competitive and efficient transportation route for exporting nearly 2,000,000 tons of Appalachian coal.

The Great Lakes corridor was initially viewed by some observers as a temporary alternative until congested U.S. east coast and gulf ports upgraded their facilities to handle the growing international demand for American coal.

But the experience of the trial year for such shipments was so conclusive that C.S.L., on the basis of present firm orders and options, will be tripling its U.S. export coal traffic to about 1,500,000 metric tons in 1982. Shipments of this coal to major consumers in Holland, Belgium, France and Japan began in May and are continuing through the summer months and in the fall.

Although U.S. exports of steam and metallurgical coal are expected to flatten out during this year of worldwide recession and demurrage charges have nearly disappeared for the U.S. east coast, C.S.L. has managed not only to retain the business it attracted in 1981 but to increase it significantly, according to Fred Pitre, vice president-marketing and planning of C.S.L. He also believes that the long term outlook remains bright as European and Asian utilities are expected to continue their consumption of coal.

During the 9-month Great Lakes shipping season, C.S.L. transports 30,000,000 tons of bulk cargo, including 12,000,000 tons of coal for Canadian steel producers and hydroelectric utilities. The shipping company is undertaking a major expansion program that includes building of three 30,000-ton ocean-going self-unloaders capable of discharging bulk cargoes at a rate of 6000 tons per hour.

C.S.L./THYSSEN MONTHLY COAL TRANSFER

Since early in 1981, C.S.L. and Thyssen Carbometal Inc., a coal trading firm based in New York City, have set up a monthly coal transfer schedule, using 160,000-ton ocean vessels.

Late last summer, C.S.L. and Thyssen Carbometal loaded the largest cargo of coal ever exported from North America. The total cargo of 165,000 tons of metallurgical coal delivered to Nippon Steel of Japan was loaded off Sept-Iles from six self-unloaders into the mv. *Yemanja* in under four days.

In a virtual carbon copy of the *Yemanja* operation, the first C.S.L. direct ship-to-ship transfer of the 1982 season amounted to 163,000 net tons of metallurgical coal sold to Nippon Steel by Thyssen Carbometal in conjunction with the Japanese trading house, Nittetsu Shoji Co. Ltd. It involved the *Sir Alexander Glen*, a 170,000-ton carrier chartered from Anglo-Nordic Shipping Ltd., New York City.

The export coal originated at mines situated in Pennsylvania and was hauled by Bessemer & Lake Erie R.R. to Conneaut on Lake Erie. The ports at which U.S. export coal is picked up by C.S.L.'s self-unloaders include Conneaut, Toledo, Sandusky, Erie and Ashtabula.

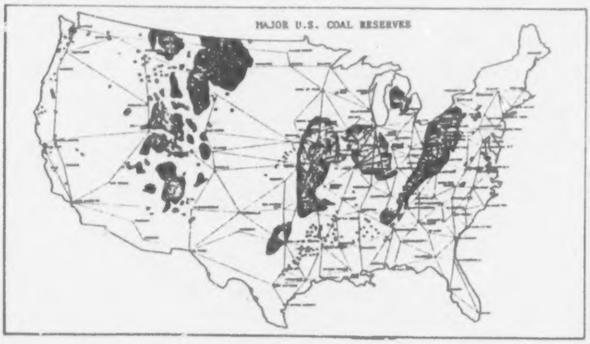
This season's first coal transfer operation, on May 18, and involving six C.S.L. self-unloaders, was completed in about 3 days. The shipment's arrival in Japan was scheduled for mid-July.

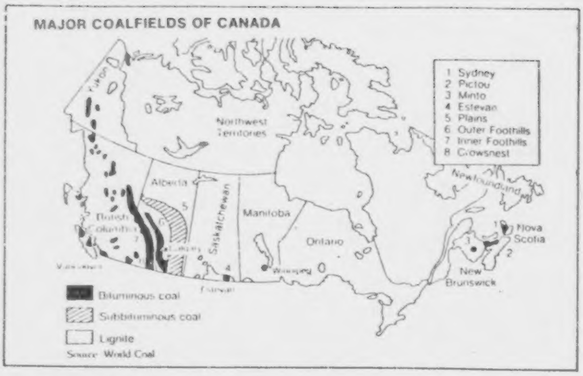
In addition to the coal transfer, the *Sir Alexander Glen* simultaneously took on bunkers while at anchor in the deep water. About 7000 metric tons of fuel were pumped from a bunkering tanker in less than 20 hours.

Later in May, five C.S.L. self-unloaders went through the same process to load 130,000 tons of U.S. coal for shipment to France. All told, the French coal importing organization, Association Technique de L'importation Charbonniere—A.T.I.C., has placed orders for 400,000 tons of coal for shipment via the Great Lakes in 1982.

For its part, S.A. Intercommunale Belge de Gaz & de l'Electricite—Intercom of Belgium is purchasing about 2,000,000 tons of U.S. coal in 1982 that includes 300,000 tons to be shipped via the Great Lakes. These shipments started in June, when four C.S.L. self-unloaders transferred 100,000 tons into a Belgian-owned bulk carrier.

Both the French and Belgian coal importing organizations scheduled the arrival of large colliers to pick up a combined total of 250,000





Source: World Coal

metric tons of coal at Sept-Iles in the last half of July.

ADVANTAGES OF GREAT LAKES CORRIDOR

Major coal shippers have selected the Great Lakes export coal corridor for the following reasons:

1. The route is congestion-free. Demurrage charges ran as high as $15 a ton in 1981 at such U.S. Atlantic ports as Hampton Roads, Va., at the height of the North American coal export boom.

2. The lower St. Lawrence River, which offers draft limits of up to 100 ft., can handle larger bulk vessels than U.S. east coast ports limited by a 40-ft. draft.

3. The coal shippers are able to combine coal with iron ore shipments, facilitating the use of very large vessels resulting in lower freight rates for both commodities.

4. Coal shippers can also take advantage of lower rail freight rates because many Appalachian coal mines are closer to the Great Lakes' ports than the U.S. east coast ports.

U.S. coal reaching world markets via the Great Lakes was shipped to Rotterdam for an average of about $14 a ton last year. With the lower rail costs on the lakes route included, the effective ocean freight rate through the North American waterway to Europe was as low as $10 a ton, as compared with U.S. east coast rates of $10 to $30 a ton.

Mr. Pitre predicts that once the ocean shipping rates recover, the increase and Great Lakes rates will be substantially less than the east coast rates, and the lakes will regain a definite price edge.

The fact that several U.S. ports have major coal facility expansion plans does not, in any way, discourage C.S.L.'s management. According to Mr. Pitre, they will need some sort of user fees to recover those costs, whereas the Great Lakes ports built decades ago already have the infrastructure to handle considerably greater coal traffic.

FURTHER COAL PORT CAPACITY ON LAKES

In effect, 40,000,000 tons of additional coal port capacity exist on the Great Lakes with no new investment required. The eight coal ports on Lake Erie, Lake Michigan, and Lake Superior now handle about 42,000,000 tons of coal annually. It is increasingly evident that these ports and the deep draft St. Lawrence ports share common interests.

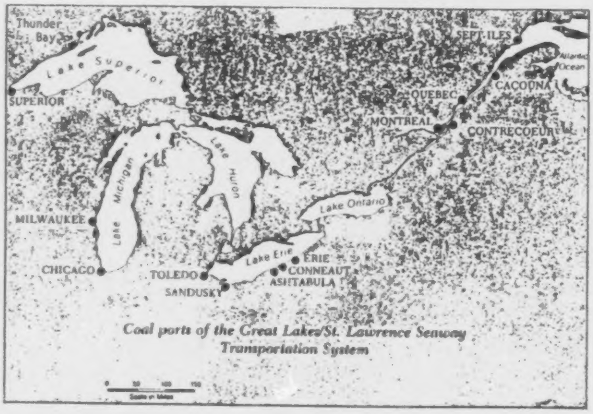
Generally speaking, long term potential of the Great Lakes route for U.S. export coal easily exceeds 2,000,000 tons annually. It could range from 5,000,000 to 10,000,000 tons a year in the not-too-distant future.

With such levels on the horizon, C.S.L. has urged the Canadian federal government and the private sector to jointly examine the possibility of establishing a shore-based stockpiling and loading facility on the lower St. Lawrence.

Paul E. Martin, president and chief executive officer of The CSL Group Inc., has indicated that a facility of this type would strengthen the competitive position of the Great Lakes-St. Lawrence waterway and pave the way for future transshipment activities involving everything from potash to Arctic natural gas.

Because full-laden bulk carriers of 150,000-ton deadweight and still larger size cannot call at U.S. east coast ports, one alternative being advanced by C.S.L. is for self-unloaders to load U.S. coal at Lake Erie ports and to connect with large ocean bulkers off Nova Scotia in the Straits of Canso, where the water depth is 100 ft.

Finally, vessel self-unloading technology offers an economical bulk delivery system for many world ports that do not receive sufficient quantities of coal to warrant high capital expenditures or a stevedoring support group for unloading operations. For example, positioning self-unloaders off the coasts of Japan, Korea or Taiwan would insure that coal could be distributed from large centralized deep water ports to smaller, shallow draft ports without sophisticated coal unloading equipment.



Coal ports of the Great Lakes/St. Lawrence Seaway Transportation System

Fairplay Shipping Weekly
INTERNATIONAL

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A new way out for U.S. coal

COAL TRADES **by Stewart Wade**

Seaway coal outlet no "one-season wonder"

ALMOST 1.5m tons of Appalachian coal has been booked to move to European and Japanese destinations via the St Lawrence Seaway transhipment route this season. The bookings represent a resounding refutation of claims by U.S. east coast ports, railroads and some coal brokers that the northern alternative could only remain competitive during periods of congestion and high demurrage at the Hampton Roads and Delaware Bay ports.

Around 1m tons was exported through the northern corridor in 1981. Although proponents of the route had been quietly marketing the system for nearly three years beforehand, it was the East Coast congestion which brought the first serious enquiries. Even so "it was generally thought to be a very short term solution to the demurrage risk problem" says Art Smadbeck of Thyssen Carbometal, one of the first to use the system. "Even today many people believe that this movement is not viable".

Thyssen experience has provided stark evidence to the contrary. Not only have the figures demonstrated the cost competitiveness of the northern route, demurrage or no demurrage on the East Coast, but the route holds promise of giving the big shippers much increased flexibility in the types of coal shipped, either as parcels or in blends.

Before the softening of the coal market, the Seaway transhipment alternative was looked upon as a one season wonder. With the poor current market and the improvement at East Coast ports, that logic would suggest its imminent demise. Yet Fred Pitre, Canada Steamship Lines' vice president for marketing and planning, is now predicting a 5m ton annual throughput within the next couple of years.

These figures are still small in comparison with the total North American export tonnages — almost 60m tons a year goes out of Hampton Roads alone. But it does represent a significant growth rate, underscores the future potential of the system and brings into question the many expensive port development plans currently being touted in the U.S.

In comparison with the mega-dollar dredging and coal-port construction projects on the drawing boards at New York, Baltimore and Portsmouth, the Seaway system has existing spare capacity totalling nearly 40m tons p.a. Just the three main Lake Erie coal ports of Conneaut, Ashtabula and Toledo could handle an additional 18m tons p.a. with no new facilities or investment needed.

Two Lakers at Welland No 1 Lock – the economics look good for coal.

The reasons why coal brokers have previously ignored the northern route can largely be attributed to their perception of the movement as a logistical nightmare, and their lack of understanding of the facilities, fleets and techniques available on the Great Lakes. In comparison with a shipment by unit train to Hampton Roads and direct load onto a 90,000 tonner, trucking and railing to Conneaut, loading onto a fleet of 30,000 d.w.t. Lakers for passage down through the Welland and the Seaway, for final transhipment onto the export vessel hardly sounds like an improvement in time and motion.

European Delivered Prices for Appalachian Coal (per ton)

	U.S. East Coast	Great Lakes
F.O.B. Mine	$ 30.00	$ 30.00
Rail	14.00	9-10.00
Port (New Invest.)	3.00	1.35
Great Lakes	-	7.50
Seaway Tolls	-	1.00
St Lawrence Transfer	-	- (when ship-to-ship)
Ocean Freight	8.00 (60,000 d.w.t.)	3.50 (150,000 d.w.t.)
	$ 55.00	$ 52.35

What these coal brokers have not taken into account is the expertise built up from handling around 45m tons of coal annually on the Lakes in domestic shipments, using fleets of hugely efficient self-unloaders. Additionally the key to the export coal package is that colliers of up to 250,000 d.w.t. can be handled with ease at the transhipment anchorage in Sept Iles harbour. To date, shipments of 160,000 are the biggest handled, yet these are sufficiently large to offer a competitive price.

On current market rates Pitre estimates that the cost of Appalachian coal, delivered in Europe, is around $55 per ton using 60,000 d.w.t. vessels out of East Coast ports, compared with just over $52 using 150,000 tonners fed by the Seaway transhipment system. Thyssen's Smadbeck reckons these differentials will "either grow, or at least remain the same. This is the key to not just a price equality with the east coast ports, but in some instances a genuine price advantage," he says.

Smadbeck has revealed that a recent transportation study for a customer with a coal mine in Central Pennsylvania has indicated even more startling results. A cost comparison was made between shipping via the B&O railroad through Curtis Bay and Port Covington, Conrail through Greenwich, Chessie through Newport News and the Seaway/Sept Iles alternative. Although the mine was adjacent to B&O and Conrail facilities in comparison to a 125 mile truck movement to the B&LE facility serving the Lakes ports, the overall costs of the shipment from the mine to a Far East destination varied from $43.63 per long ton via Conrail-Greenwich to $36.72 via the Lakes. The closest competitor was the Newport News movement, nearly $3 a ton more expensive at $39.69.

Outsiders may think the Lakes/Seaway movement complex, but to the traditional lake operators, such as CSL, the mechanics are relatively straightforward. According to Fred Pitre, CSL requires only five days firm notification of the deepsea bulk carrier's ETA at Sept Iles. With 13 self unloaders in the CSL fleet, most of which are involved in moving cargoes from stockpile to stockpile, the company has the flexibility to pull the necessary vessels out of domestic trading for the switch to the deep sea contract. The maximum number needed for any shipment to date has been six 30,000 tonners.

The Lakers then load at one or more of the Lake Erie coal ports, move down the Seaway and rendezvous with the deepsea vessel in the 100 ft. deep, sheltered harbour at Sept Iles. Using self unloaders introduces a substantial cost saving element as no port facilities are required. The stream of Lakers tie up alongside the bulk carrier and use their own sophisticated belt loop conveyor dischargers and booms to tranship the coal.

Each vessel has a potential handling rate of 6,000 t.p.h., equivalent to the best and most modern port loaders. With two Lakers working the vessel simultaneously, rates 10,000 t.p.h.

COAL TRADES ·

have been achieved. Deballasting of the loading vessel tends to be the limiting factor regarding speed of loading. According to Pitre a 150,000 tonner can be turned round in anything from 2-4 days depending upon requirements whilst still allowing ample time for unforeseen hitches.

CSL is sufficiently confident of its ability to meet contract requirements that it has adopted a very relaxed attitude to the possibilities of delays. "We don't consider it a major risk" says Pitre. "We feel it should average out over a period with regular customers". As a consequence there are no provisions for despatch or demurrage, business being conducted on "mutual trust, the way we've always done it on the Lakes" he says. That is not to say that the ocean carriers saw it that way initially. But when their request for despatch/demurrage for the one vessel was met by similar demands for all six feeder Lake ships, they quickly opted for the elimination of all such provisions.

Having pioneered the concept, CSL is in the prime position to meet future demand for transhipment coal. This season, contracts have been concluded with France's ATIC for between 400-500,000 tons and INTERCOM of Belgium for a slightly smaller quantity, in addition to a further 400-500,000 tons for Thyssen. If demand should continue to increase in line with current projections to the possible 5m t.p.a. figure, other carriers would inevitably become involved.

Pitre says the company would be happy to form a joint venture with another operator under such circumstances, with a U.S. partner being "probably more politically acceptable". American Steamship, the Buffalo based independent which operates the largest fleet of U.S. flag self unloaders, would appear to be the most likely choice. Pitre reckons that higher U.S. operating costs could be offset by some other advantages to be gained within the system, such that a U.S. partner could be absorbed with no increase in the current rate structure.

Where problems could arise is if and when the traditional Lake trades recover from the current recession, pulling CSL and any partner between the split loyalties to their long standing customers and their new venture. A CSL orderbook which will see the delivery of a further two bulkers and three self unloaders over the next four years should ease the position, but Pitre admits that the company is facing some serious decisions about its future intentions.

Perhaps the most interesting development which could boost the trade is the possibility of blending differing grades of coal during the final transhipment phase. Art Smadbeck has revealed that Thyssen is now working on the feasibility of blending low sulphur Western coal shipped out of Superior, with the higher b.t.u., high sulphur Eastern coals.

Thyssen's enthusiasm for the system is such that they are also looking at two further possibilities — shipping small parcels of coal direct out of the Lakes to European destinations and, at the other extreme, bringing in 250,000 tonners for the deep sea leg. In the first instance Smadbeck explains that Lake Erie ports are as close to Rotterdam as is Hampton Roads, plus there are many European ports which can only handle small vessels. This latter factor ties in with the second project and a role being investigated by CSL.

If 250,000 d.w.t. bulk carriers were to be brought in for the main Atlantic haul, CSL sees a role for a supplementary fleet of self-unloaders distributing the coal from, say Rotterdam, to the many small users in Europe. Utilities and cement factories in particular are seen as possible customers, with the self unloaders obviating the need for any but the most rudimentary port facilities. Pitre admits that considerable study is currently being done on such projects and says that the necessary ships would probably be ordered from foreign yards and operated under foreign flag with foreign crew, although he stresses that Canadian officers would be employed because of their familiarity with the cargo handling techniques.

The other project currently under investigation is swinging some of the company's self unloaders into service at U.S. East Coast ports as top-off vessels. Pitre cites Hampton Roads as a prime possibility with a single 30,000 tonner, loading from one of the smaller wharves, topping off a 90,000 d.w.t. vessel off Virginia Beach. (Classification society dispensation for a Lake scantling vessel to operate in such tidewater is not expected to pose any difficulty).

Pitre estimates that, provided the vessel could achieve a 70 per cent utilisation rate, the operation could be done for as little as $2-3 per ton, or less than $1 when spread over the entire cargo loaded by the deep sea vessel. The economics look good in every respect except for that 70 per cent utilisation. Although the scheme has excited considerable interest, it is doubtful if even a 50 per cent utilisation ratio could be achieved at present. Much may depend upon the outcome of the various port user fee bills currently before Congress which will shape future port developments within the U.S. for the next decade.

Ambitious as the various plans are, there is a much greater chance of at least some of them being pulled off in the light of the initial successes of the Seaway transhipment route. Thyssen's Smadbeck puts it quite strongly. "We (at Thyssen) believe in the long term growth potential of exporting coals from the U.S. through the Great Lakes" he says. "Because each party involved in this intricate movement has recognized the advantages of working together, I believe there will be full and complete use of the Great Lakes-Seaway potential and that potential should only be limited by the demand for U.S. coals overseas."

The Journal of Commerce
AND COMMERCIAL
NEW YORK, WEDNESDAY, MAY 12, 1982

Canada Steamship Attributes Competitiveness to Innovation

By LEO RYAN
Journal of Commerce Staff

MONTREAL — Economics and logistics continue to demonstrate the competitiveness of the Great Lakes corridor in relation to East Coast ports for transporting U.S. export coal to world markets, asserts J. Fredrick Pitro, vice president of Canada Steamship Lines.

The Canadian shipping company executive revealed in an interview that CSL, on the basis of present firm orders and options, will be tripling its U.S. export coal traffic this year to about 1.5 million metric tons.

This anticipated volume is well above previous forecasts of doubling such traffic to European and Asian markets after a promising first experience using innovative shipping techniques in 1981 on the Great Lakes route.

The regular midstream operations involving the transfer of coal from self-unloading laker vessels to large oceangoing bulk carriers are scheduled to kick-off on Tuesday, May 18, at the deep-draft St. Lawrence River Port of Sept-Iles (Seven Islands).

Since early in 1981, CSL has set up a coal transfer schedule with Thyssen Carometal Inc. of New York, using 160,000-deadweight-ton vessels.

Late last summer, CSL and Thyssen loaded the largest cargo of coal ever exported from North America. The total shipment of 165,000 tons of metallurgical coal — delivered to Nippon Steel in Japan — was loaded off Sept-Iles directly into the hold of the M.V. Yemanja from six 30,000-ton self-unloaders in under four days.

> *The line will be tripling its U.S. export coal traffic this year to about 1.5 million metric tons. This anticipated volume is well above previous forecasts of doubling such traffic to European and Asian markets.*

Most of the coal being exported through the Great Lakes is Appalachian coal railed from the mines to Lake Erie ports, notably Toledo and Conneaut.

Next week's transfer will be a virtual carbon copy of the Yemanja operation, except that a different bulk carrier will be involved: the 160,000-dwt. Sir Alexander Glen belonging to Anglo-Nordic Shipping Ltd.

There will be a new refinement, too, when some 6,000 tons of bunker fuel will be loaded at the same time as the transfer operations while the bulk carrier is at anchor.

Late in May, five CSL self-unloaders will go through the same process to load some 130,000 tons of U.S. coal aboard a bulk carrier that will deliver the shipment to France. All told the French coal-importing body, the Association Technique de l'Importation Charbonniere, has placed orders for 400,000 tons of U.S. coal for shipment via the Great Lakes out of a total 1982 order for U.S. coal of some 6 million tons, Mr. Pitre said.

For its part, the Belgian utility S.A. Intercommunale Belgo de gaz et de l'Electricite (Intercom) is buying some 2 million tons of U.S. coal, of which 300,000 tons will be shipped through the Great Lakes, Mr. Pitre stated.

Shipments will start in the second week in June, with four CSL self-unloaders transferring about 100,000 tons of U.S. coal onto a Belgian bulk-carrier.

Later in the year, CSL and Thyssen will resume shipments of several hundred thousand tons of U.S. coal via Sept-Iles to Rotterdam "after European inventories go down," Mr. Pitre said.

The National Coal Association is projecting that U.S. exports of steam and metallurgical coal will flatten out in 1982, with the coal glut drying up the spot market in Europe in particular. But the long-term prospects remain bright as European and Asian utilities are expected to increase their coal consumption dramatically.

Mr. Pitre remains optimistic about the potential of the Great Lakes route as an alternative to U.S. East Coast ports, despite the fact that most of last year's demurrage has disappeared from the eastern seaboard.

"Because ocean rates have fallen," stressed Mr. Pitre, "direct transfers save still more on loading and unloading costs."

The lower St. Lawrence, which offers draft limits of 60 feet, can handle larger bulk vessels than U.S. East Coast ports limited by a 40-foot draft.

The fact that a number of U.S.

SEE CANADA, PAGE 3B

Canada Steamship Attributes Competitiveness to Innovation

CANADA, FROM 1B

ports have major coal facility expansion plans does not discourage Mr. Pitre.

"They will need," he argues, "some sort of user fee to recover those costs, whereas the Great Lakes ports built decades ago already have the infrastructures to handle considerably greater coal traffic."

As far as rates are concerned, Mr. Pitre acknowledged that "we're struggling to stay equal but we are nevertheless continuing to prove we represent a real alternative."

U.S. coal reaching world markets by the Great Lakes route was shipped to Rotterdam last year for about $14 a ton. When the benefit of lower rail costs were also included in the Lakes route, the effective ocean freight rate via the Lakes to Europe was as low as $10 a ton. This compared to East Coast rates to Europe which ranged from $10 to $30 a ton. According to Mr. Pitre, the cost of shipping via the Great Lakes is currently in the $9 to $11 per ton range compared with $8 to $9 per ton on the East Coast.

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NTERNATIONAL DES TRANSPORTS — MARITIME - ROUTIER - FLUVIAL - AERIEN - FERROVIAIRE

Les vraquiers auto-déchargeants et les Grands Lacs : formule complémentaire à l'exportation du charbon US

par Ph. VAN DOOREN

Premiers chargements par cette route à destination de la Belgique

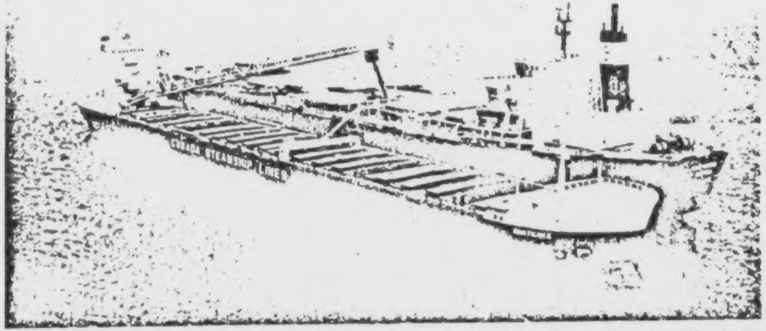
Récemment est entré à Anvers le « Coal Venture », un vraquier de 120.000 t.dw. pour décharger aux installations de la SGM 105.000 t de charbon US destiné au « pool des calories », responsable des achats de charbon pour les centrales électriques belges. C'était le premier arrivage des 300.000 tonnes de charbon US destinées aux électriciens belges, à être expédiées par la route des Grands Lacs.

Cette voie avait été choisie pour sa rapidité. Les ports américains de la côte est sont en effet malgré tout encore trop marqués par des jours d'attente, et la volonté de limiter les surestaries fait en sorte que les Grands Lacs retiennent de plus en plus l'attention pour les exportations de houille des Appalaches. Un élément clé dans cette rapidité est l'usage de vraquiers autodéchargeants faisant la navette entre les lacs et le port en eau profonde de Sept-Iles, via le Seaway du Saint Laurent.

Les navires auto déchargeants sont une innovation technologique qui commence en effet à révolutionner les transports du charbon par voie maritime. A son origine se trouve l'armement Canada Steamship Lines Inc. de Montreal, la plus grande entreprise de navigation sur les GL, avec une flotte de 39 navires et un tonnage global de plus de 750.000 tonnes.

35 % de la flotte des GL est composée de navires autodéchargeants, soit un total de 2,73 millions de t.dw. Grâce à ce système, il a été possible d'organiser, dans le cas des trafics intérieurs, des transbordements de petites unités (10.000 t.dw.) vers de plus grandes (jusqu'à 55.000 t.dw.), mais également, dans le cas des exportations (de charbon principalement) des transbordements depuis des unités de classe Seaway (35.000 t.dw. maximum) vers des vraquiers océaniques à fort tirant d'eau.

(lire suite en page 2)



Lorsqu'en 1981 les jours d'attente devant les ports US de la côte est sont devenus de plus en plus nombreux, les navires autodéchargeants des Grands Lacs ont gagné en importance en tant que moyen complémentaire d'évacuation du charbon américain vers l'Europe et le Japon.

Les vraquiers auto-déchargeants et les Grands Lacs

(suite de la 1ère page)

C'est ainsi qu'au printemps de cette année CSL et Thyssen Carbometal Inc., un négociant en charbon de New York ont chargé une des plus importantes cargaisons de charbon d'exportation à jamais quitter l'Amérique du Nord. Il s'agissait de 163 000 tonnes de charbon métallurgique destinées à Nippon Steel qui furent chargées à Sept-Iles en moins de quatre jours à bord du « Sir Alexander Glen », un navire de 170 000 t dw, à l'aide de six auto déchargeurs.

Récemment, cinq autres autodéchargeurs ont chargé 130 000 tonnes de charbon US à destination de la France, un premier chargement effectué pour l'ATIC, l'Association Technique de l'Importation Charbonnière française, qui a commandé 400 000 tonnes de charbon US devant être acheminées par la voie des Grands Lacs en 1982. Notons que si pour le pool des calories belge c'est la première année qu'il est fait appel au Saint Laurent pour acheminer du charbon américain, les Français de l'ATIC ont fait transiter 600 000 tonnes par les GL en 1981. Cette année-ci a donc été marquée par une baisse, mais il convient de noter que les importations globales de charbon américain par la France devraient être inférieures, voire même sensiblement inférieures aux 9,5 millions de tonnes de 1981. Pour ce qui est de l'usage des GL par les Français en 1983, il est encore impossible de se prononcer, nous a déclaré un porte-parole de l'ATIC. Cela dépendra des coûts d'approvisionnement. Les GL avaient été plus intéressants en 1981 du fait des surestaries dans les ports US de la côte est. Pour 1982, on est arrivé à une situation plus équilibrée, d'où la baisse de 200 000 tonnes du transit par les GL. Si 1983 est marqué par une évolution dans le sens d'une augmentation des jours d'attente aux Etats-Unis et des taux de fret des Panamax, un appel accru devrait être fait aux GL. Toutefois, rien ne permet de prévoir une tendance en ce sens, pour ce qui est des Panamax en tout cas, dans la mesure où l'on estime généralement que 1983 sera toujours marqué par la dépression des taux de fret.

Il convient toutefois de noter que l'ATIC continuera à faire passer une partie de son charbon US par le Saint Laurent pour des raisons stratégiques : d'une part pour faire pression sur les chemins de fer US en matière de prix pour le transport du charbon vers la côte est, et d'autre part pour demeurer dans la place, afin de pouvoir trouver des échappatoires en cas de problèmes dans les ports de la côte est. C'est d'ailleurs pour cette raison que les Français font également passer une partie de leur charbon US (400 à 500 000 tonnes par an environ) par le Mississippi et les ports du Golfe.

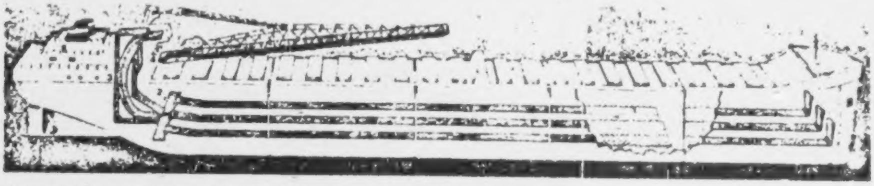
Il apparait donc clairement que la route des Grands Lacs peut jouer un rôle complémentaire dans les exportations du charbon US. Sa position, principalement en 1981, s'est avérée très concurrentielle. Elle a en effet servi à acheminer près de 2 millions de tonnes de charbon des Appalaches vers les marchés d'exportation. Si cette part est malgré tout très modeste, les exportations US ayant été de 110 millions de tonnes en 1981, et de 81 millions de tonnes en 1980), il convient toutefois de remarquer que cette route pour l'exportation vers l'Europe et le Japon est très jeune.

Une des raisons pour lesquelles cette voie devrait tout de même gagner en importance, est que le système des navires autodéchargeants n'est pas seulement applicable pour le transport du charbon de l'Est des Etats-Unis (Lac Erie) et du Midwest (Lac Michigan), mais également pour l'évacuation du charbon à faible teneur en soufre du Montana et du Wyoming. 80 % des réserves de charbon de ce type sont localisées dans ces deux Etats, et les Européens s'intéressent de plus en plus à la route des GL pour acheminer ce charbon « propre » outre Atlantique.

Outre le fait que les ports du Bas du fleuve Saint Laurent, dont la profondeur peut atteindre 100 pieds, peuvent accomoder des vraquiers beaucoup plus grands que ne le peuvent les ports côtiers de l'Est des Etats-Unis (40 pieds maximum), vient s'ajouter l'avantage que les ports des GL pourraient accomoder quelque 40 millions de tonnes additionnelles sans autre forme d'investissement. Actuellement, les huit ports charbonniers sur les lacs Erié, Michigan et Supérieur peuvent manutentionner environ 42 millions de tonnes de charbon par an, et le potentiel de la route des GL, pour ce qui est des exportations de charbon, dépasse les 2 millions de tonnes par an. A brève échéance, cette capacité pourrait atteindre les 5 à 10 millions de tonnes par année.

Considérant l'importance de cet énorme potentiel, Canadian Steamship Lines a insisté auprès du gouvernement canadien et du secteur privé pour que soit examinée conjointement la possibilité de prévoir une installation de stockage et de chargement sur les rives du Bas du Saint Laurent.

Une autre possibilité attrayante pour CSL consisterait en une variante de ses opérations de transbordement navire/navire de Sept-Iles appliquée aux ports côtiers de l'est des Etats-Unis. Des charbonniers partiellement chargés à Hampton Roads, Baltimore ou Philadephie, pourraient être remplis à leur pleine capacité par les auto déchargeurs de CSL dans la baie du Delaware, là où la profondeur de l'eau est de 60 pieds. Les navires de CSL pourraient être chargés dans les ports de la côte est en même temps que les grands vraquiers seraient partiellement chargés. Les navires de CSL pourraient ensuite rencontrer les océaniques en eau plus profonde.



JOURNAL DE
LA MARINE MARCHANDE
ET DE LA NAVIGATION AÉRIENNE

SOCIÉTÉ ANONYME AU CAPITAL DE 150 000 FRANCS
PARAIT TOUS LES JEUDIS DEPUIS 1919
RÉDACTEUR EN CHEF : RENÉ MOREUX (1919-1957) CHRISTIAN MOREUX

199, Bd HAUSSMANN, 75008 PARIS - 563.11.55 (15 lignes) - TÉLÉG. NAVIMAR 77 - CHÈQUES POSTAUX 363-57 Z PARIS - R. C. PARIS 572038495 B

Le transbordement sur grands vraquiers à Sept-Iles au moyen de navires autodéchargeurs semble rendre concurrentielle la sortie par les Grands Lacs du charbon américain (une voie que l'ATIC utilise déjà largement)

A l'époque de l'encombrement maximum des ports charbonniers américains, on s'est efforcé de trouver d'autres exutoires que ceux de la côte Atlantique, singulièrement Hampton Roads, et l'on a utilisé à cet effet aussi bien la voie du Mississipi que celle des Grands Lacs. Cela se justifie d'autant plus que les parcours ferroviaires à partir des houillères ne sont pas généralement plus importants – c'est même parfois tout le contraire – les réserves charbonnières américaines étant d'ailleurs largement réparties dans l'intérieur du territoire américain. Mais le problème est celui de la dimension des navires qui peuvent être ainsi utilisés, et à cet égard pour beaucoup d'observateurs la voie des Grands Lacs – par laquelle ont été acheminées l'an dernier de près de 2 millions de tonnes de charbon des Appalaches vers les marchés d'exportation – n'était qu'une solution provisoire, jusqu'à ce que les ports océaniques des États-Unis deviennent capables de faire face à l'accroissement de la demande mondiale. Les Canada Steamship Lines (CSL), de Montréal, la plus importante compagnie de navigation des Grands Lacs, avec une flotte de 39 navires et un port en lourd dépassant 750 000 t, a expérimenté une solution originale, qui pourrait se révéler concurrentielle d'une manière permanente : il s'agit du transbordement sur des vraquiers océaniques, au port en eau profonde de Sept-Iles, sur la rive nord du golfe du Saint-Laurent, du charbon apporté en provenance des Grands Lacs par des navires autodéchargeurs – un type de navire qui est, comme on le sait, très caractéristique de la navigation sur les Grands Lacs.

La CSL, qui transporte au cours d'une saison des Grands Lacs 30 millions de tonnes de marchandises en vrac, dont 12 millions de tonnes de charbon pour les aciéries canadiennes et les centrales électriques, entreprend maintenant pour ce nouveau type d'opérations un programme d'expansion, qui comprend en premier lieu la construction de trois navires autodéchargeurs de 30 000 t spécialement conçus.

Les essais qui ont été faits portent déjà sur une année et dès à présent, au cours de la saison 1982 entre mai et la fin de l'automne, la compagnie canadienne doit tripler ses exportations de charbon américain, qui passeraient ainsi à 1,5 million de tonnes.

Les navires océaniques utilisés sont d'un tonnage très important pour la catégorie des charbonniers. Dès le début de 1981, en liaison avec Thyssen Carbometal, la CSL opérait un transbordement de 165 000 t de charbon sidérurgique à bord du *Yemanja* à destination de la Nippon Steel; l'opération fut réalisée en moins de quatre jours à l'aide de six navires autodéchargeurs. Toujours pour le Japon, c'est un navire de 170 000 tpl, *Sir-Alexander-Glen*, qui était ainsi chargé au début de la saison 1982, opération réalisée cette fois en moins de trois jours avec six autodéchargeurs de la CSL. En mai également c'étaient 130 000 t de charbon américain qui étaient transbordées de la même manière pour le compte de l'ATIC (Association technique de l'importation charbonnière), pour qui 400 000 t de charbon doivent être acheminées par la voie des Grands Lacs en 1982. La Société intercommunale belge de gaz et d'électricité, INTERCOM, a également prévu pour cette année une expédition de 300 000 t de charbon par les Grands Lacs. Pour le compte de ces deux organismes d'importation de charbon de France et de Belgique, quelque 250 000 t devaient être ainsi embarquées au port de Sept-Iles au cours de la deuxième quinzaine de juillet.

Il est souligné que cette route des Grands Lacs n'est jamais encombrée, que les ports de l'embouchure du Saint-Laurent dont la profondeur peut atteindre jusqu'à 30 m sont capables de recevoir des vraquiers beaucoup plus importants que ceux de la côte Est des États-Unis (40 pieds soit 12 m). De plus ces trafics de charbon peuvent, combinés avec des trafics de minerais de fer et même, plusieurs mines des Appalaches se trouvant beaucoup plus près des ports des Grands Lacs que des ports de la côte Est des États-Unis, peuvent se prévaloir de tarifs ferroviaires inférieurs.

D'après les documents communiqués par la CSL, le coût de transport ainsi obtenu par la voie des Grands Lacs, acheminement ferroviaire compris, serait ramené pour l'Europe à $ 10 par tonne, alors qu'au départ de la côte Est des États-Unis il varie entre $ 10 et $ 30.

Les promoteurs de ces opérations ne s'inquiètent pas des projets de modernisation des ports américains, dont le coût devrait être compensé par des charges additionnelles. Au contraire, les ports des Grands Lacs possèdent déjà des infrastructures qui permettraient de faire face à un trafic beaucoup plus important : les huit ports charbonniers situés sur les lacs Erié, Michigan et Supérieur peuvent manutentionner 42 millions de tonnes de charbon par an.

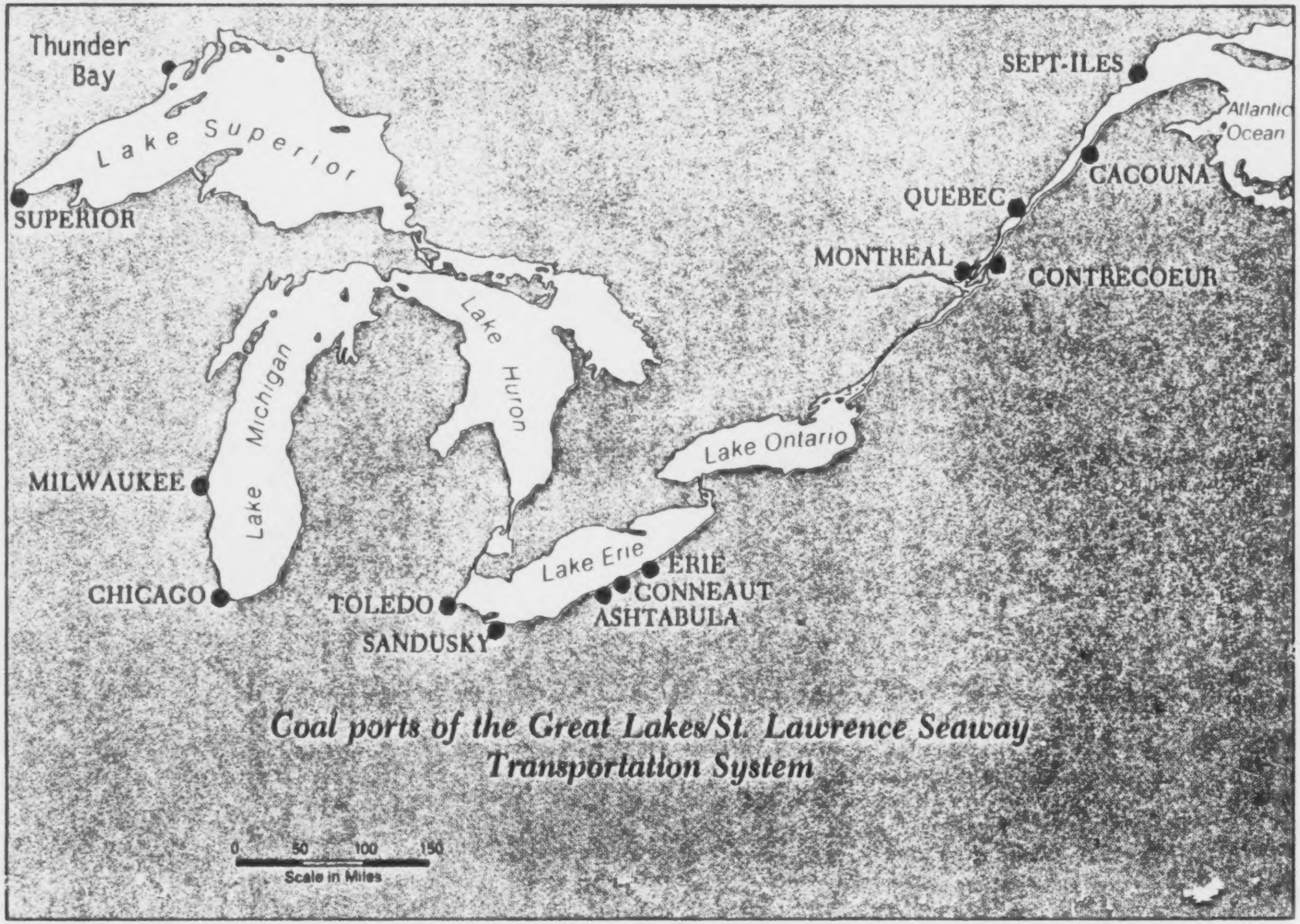
Les navires autodéchargeurs, en permettant les transbordements directs, ont joué un rôle-clé dans l'ouverture de la route du charbon des Grands Lacs. La CSL insiste maintenant auprès du gouvernement canadien et du secteur privé pour que soit examinée conjointement la possibilité d'une installation de stockage, un port charbonnier relais en quelque sorte, à l'embouchure du Saint-Laurent, les possibilités de transbordement pouvant d'ailleurs s'étendre à d'autres catégories de produits.

La CSL propose aussi de compléter au moyen de ses navires autodéchargeurs, dans la baie du Delaware où la profondeur d'eau atteint 60 pieds, le chargement de charbonniers de très fort tonnage partiellement remplis à Hampton Roads, Baltimore ou Philadelphie, ces navires autodéchargeurs étant eux-mêmes chargés dans les ports de la côte Est. C'est peut-être une idée que les Américains pourraient avoir eux-mêmes...

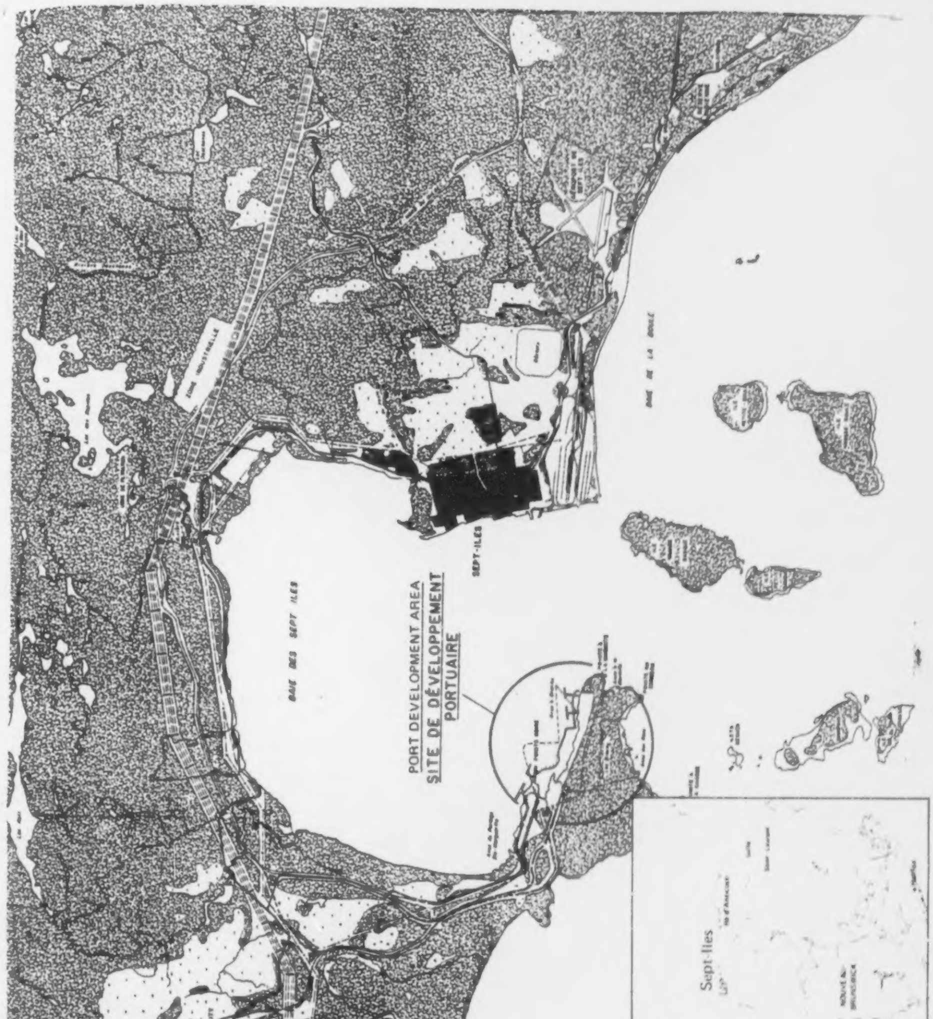
De nouvelles commandes du groupe World-Wide?

De source japonaise, on indique que le groupe de Hong-Kong World-Wide pourrait revenir sur le marché de la construction neuve notamment pour des pétroliers de taille moyenne, des pétroliers-minéraliers-vraquiers et des cargos frigorifiques.

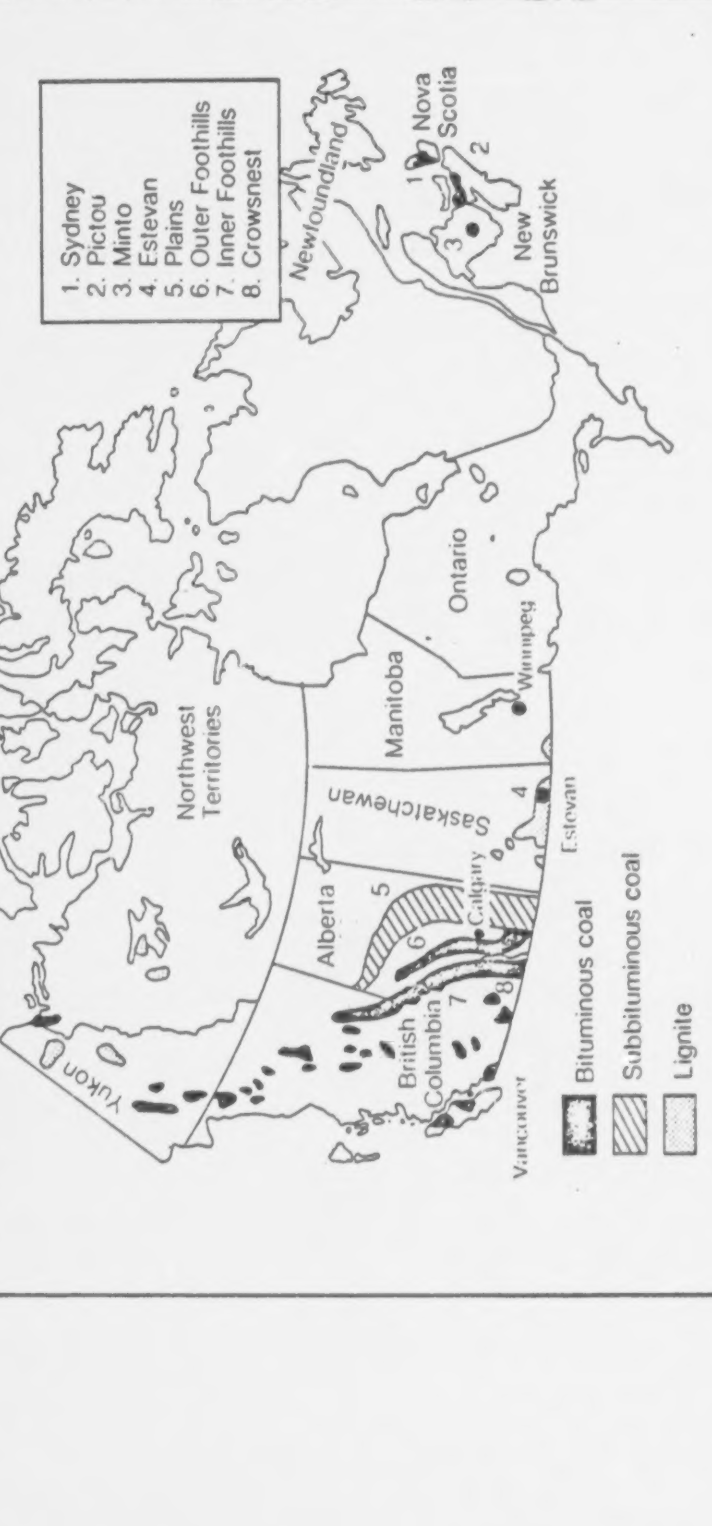
Le groupe World-Wide avait été particulièrement actif en commandant, ainsi que l'armement Wah Kwong Shipping de Hong-Kong, de nombreux vraquiers en 1980-1981. Il doit encore prendre livraison de plusieurs vraquiers de taille moyenne ou de 100 000 tpl et plus.



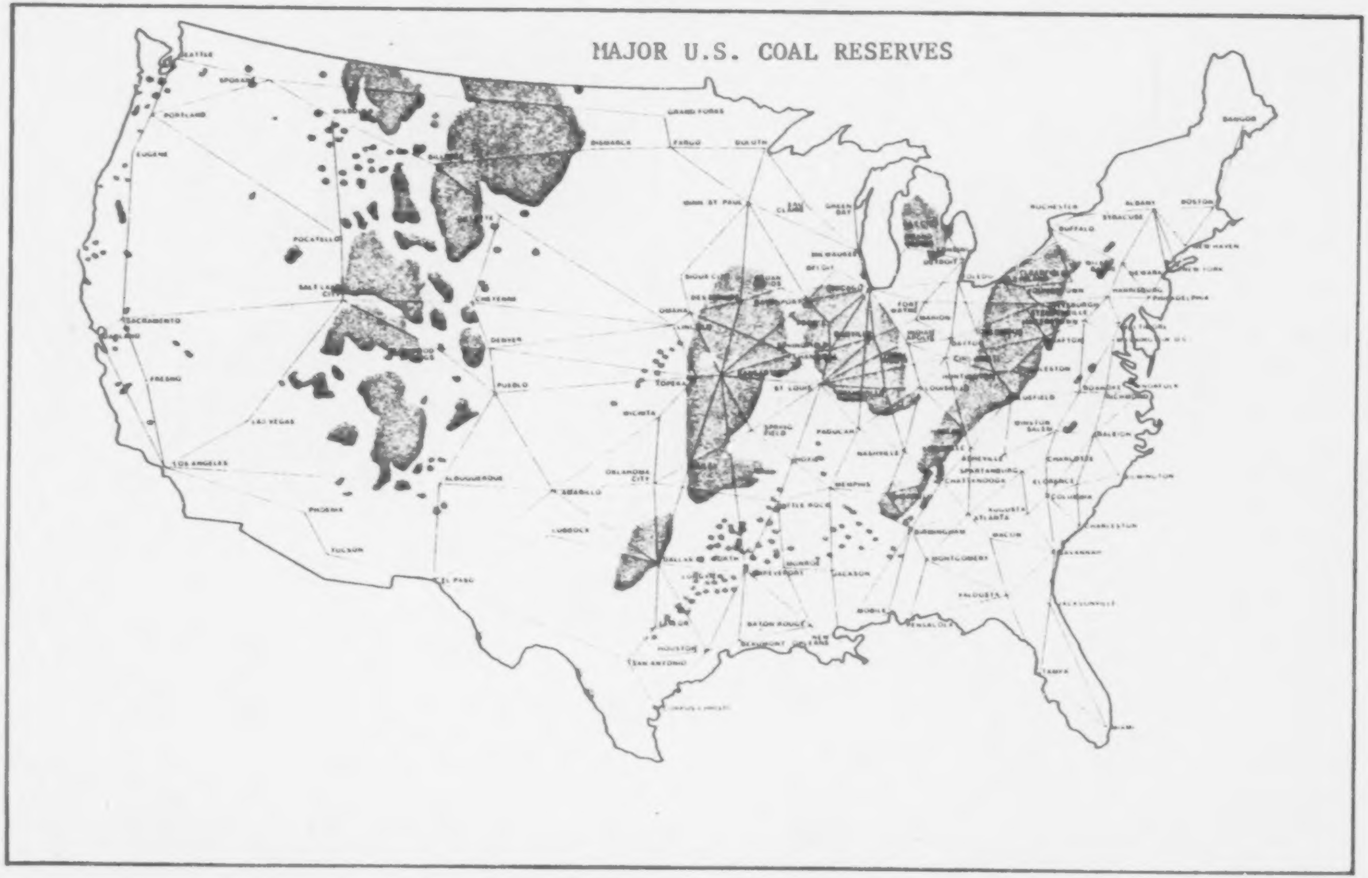
Coal ports of the Great Lakes/St. Lawrence Seaway Transportation System


PORT DEVELOPMENT AREA
SITE DE DÉVELOPPEMENT PORTUAIRE
BAIE DES SEPT ILES
SEPT-ILES
ZONE INDUSTRIELLE
BAIE STE-MARGUERITE
Sept-Iles
QUÉBEC
NOUVEAU BRUNSWICK
ÉTATS-UNIS
CANADA

MAJOR COALFIELDS OF CANADA



Source: World Coal



MAJOR U.S. COAL RESERVES

STATEMENT

Anthony J. Tozzoli, Director
Port Department

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Before the Subcommittee on Energy and Mineral Resources
of the Senate Committee on Energy and Natural Resources

September 16, 1982

My name is Anthony J. Tozzoli and I am Director of the Port Department of the Port Authority of New York and New Jersey. I appreciate the opportunity to report to you on the plans of the Port Authority for a coal transshipment facility on the northern New Jersey waterfront.

The Port of New York and New Jersey is a newcomer to the European coal export business, but not to the coal transshipment business. Twenty years ago, 20 million tons of coal moved through our port to electric generating stations located on the tidewaters of the Northeast. We now plan to respond to the needs of the many utilities in this region which are turning to coal again for fuel as well as to the needs of the growing European coal market.

DESCRIPTION OF THE PROPOSED FACILITY

SINCE THE END OF 1981, MUCH PROGRESS HAS BEEN MADE IN THE DEVELOPMENT OF OUR FACILITY. AT A TOTAL COST OF $12 MILLION WE HAVE PURCHASED TWO PROSPECTIVE SITES IN NEW JERSEY -- PORT JERSEY AND GREENVILLE -- AND ARE NEARING COMPLETION OF EXTENSIVE ENVIRONMENTAL AND ENGINEERING STUDIES OF THEM. (EXHIBIT 1)

BOTH SITES ARE LARGE, ABOUT 220 ACRES EACH. EITHER ONE COULD ACCOMMODATE A LOOP TRACK OF SUFFICIENT LENGTH FOR A UNIT TRAIN OF 110 CARS, PLUS FOUR OR FIVE LOCOMOTIVES. INITIALLY, THE THROUGHPUT WILL BE FIVE TO TEN MILLION TONS OF COAL PER YEAR, GRADUALLY INCREASING TO 20 MILLION TONS BY ABOUT 1990. THE AREA INSIDE THE LOOPTRACK WILL BE USED FOR GROUND STORAGE OF ONE TO TWO MILLION TONS OF COAL.

COAL WILL ARRIVE AT THE FACILITY VIA CONRAIL PRIMARILY FROM NORTHERN APPALACHIAN MINES. (EXHIBIT 2) COAL COULD ALSO BE DELIVERED FROM SOUTHERN AND CENTRAL APPALACHIAN MINES VIA THE N & W AND THE CHESSIE SYSTEMS WHICH CAN INTERCHANGE WITH CONRAIL AT LURGEN, PA AND HAGERSTOWN, MD.

ONE OF THE PRIMARY BENEFITS OF A COALPORT TO THE REGION WOULD BE THE BUSINESS IT WOULD BRING TO CONRAIL. THE RAILROAD HAS INVESTED MORE THAN A BILLION DOLLARS SINCE 1976 IN NEW AND RESTORED EQUIPMENT TO SERVE THE COAL TRADE. NO CAPITAL IMPROVEMENTS WOULD BE NEEDED TO SERVE THE COAL MARKET. TRACKS AND ROADBEDS HAVE BEEN UPDATED. THERE ARE MORE THAN ENOUGH

LOCOMOTIVES AND OPEN TOP HOPPER CARS CURRENTLY ON HAND TO DELIVER THE FULL 20 MILLION TON PER YEAR TO OUR PORT. CONRAIL'S MAIN LINE CONNECTING THE MINES TO THE HARBOR AREA IS PRESENTLY UNDERUTILIZED AND CAN EASILY ACCOMMODATE THE ADDITIONAL FREIGHT. CONRAIL ESTIMATES THAT DELIVERIES TO OUR FACILITY COULD AMOUNT TO $200 MILLION IN NET REVENUES ANNUALLY. COAL HAULING SERVICE TO THE PORT OF NEW YORK AND NEW JERSEY WOULD GREATLY STRENGTHEN THE ONLY MAJOR RAIL FREIGHT LINE IN THE NORTHEAST.

ONCE THE COAL TRAIN ARRIVES AT THE FACILITY, THE COAL WILL BE DUMPED IN AN ENCLOSED BUILDING, TWO CARS AT A TIME. THE TOTAL TIME TO UNLOAD AND TURN AROUND A 110 CAR TRAIN IS EXPECTED TO BE ABOUT 4 HOURS. COAL WILL BE CARRIED FROM THE DUMPING SHED TO A LUFFING STACKER RECLAIMER ON CONVEYOR BELTS. RECLAIM FROM THE COAL PILES WILL BE ACHIEVED EITHER BY A BUCKETWHEEL RECLAIMER OR BY AN UNDERGROUND RECLAIM TUNNEL. ANOTHER CONVEYOR BELT MOVES THE COAL FROM THE RECLAIM SYSTEM TO THE SHIPLOADER.

BOTH OCEAN GOING VESSELS AND BARGES WILL CALL AT THE FACILITY. THE OCEAN GOING VESSELS WILL VARY IN SIZE FROM 60,000 DEAD WEIGHT TONS (DWT) TO 90,000 DWT. THE TIME REQUIRED TO LOAD THESE VESSELS RANGES FROM 7 1/2 HOURS TO 15 HOURS AT AN AVERAGE RATE OF 6,000 TONS PER HOUR. THE CORRESPONDING DRAFT OF THE VESSELS (FULLY LOADED) IS ABOUT 41 FEET TO ABOUT 49 FEET.

THE CURRENT DEPTH OF THE MAIN FEDERAL CHANNEL IN NEW YORK HARBOR IS 45 FEET. BY DEEPENING THE BERTHING SPACE OF THE

FACILITY AND BY RIDING THE 5 FOOT TIDE, WE CAN NOW SAFELY LOAD LARGE, CONVENTIONAL COLLIERS OF 90,000 DWT.

A MAJOR CONCERN ARE THE DEPTHS GREATER THAN 45' WHICH ARE REQUIRED BY THE VESSELS 100,000 DWT AND LARGER. SUCH VESSELS ALREADY FREQUENT THE HARBORS OF OUR CHIEF RIVALS IN THE EUROPEAN COAL TRADE, AUSTRALIA AND SOUTH AFRICA. I AM CONVINCED THAT WE WILL NOT BE A FORMIDABLE COMPETITOR IN THE INTERNATIONAL COAL TRADE UNTIL OUR CHANNEL IS DEEPENED TO 55'.

DISTINCTIVE ADVANTAGES OF OUR FACILITY

THE COMPETITIVE ADVANTAGES OF OUR DESIGN AND THE GEOGRAPHIC LOCATION OF NEW YORK/NEW JERSEY ARE THE KEYS TO OUR FUTURE SUCCESS. OUR GOAL IS TO PREVENT THE KINDS OF COSTLY DELAYS WHICH PLAGUED COAL SHIPPERS IN THE DEMAND UPSURGE OF 1980/81.

OUR DESIGN WILL MEET THIS GOAL. THE FACILITY WILL BE DEDICATED TO SPECIFIC USERS. DEDICATED SERVICE WILL ASSURE DEMURRAGE FREE BERTHING SPACE FOR VESSELS CALLING AT THE PORT. GROUND STORAGE WILL GUARANTEE THAT COAL REQUIRED FOR SHIPMENT WILL BE AVAILABLE AS SOON AS VESSELS ARRIVE. IN ADDITION, GROUND STORAGE PROVIDES TWO OTHER ADVANTAGES: 1) BACK-UP STORAGE FOR THE UTILITIES WHICH LACK ENOUGH LAND TO DEVELOP THEIR OWN REQUIRED STOCKPILES; AND 2) THE CAPABILITY TO STORE COAL WHICH HAS SEVERAL DIFFERENT CHARACTERISTICS AND CAN BE BLENDED TO MEET

THE SPECIFIC REQUIREMENTS OF A VARIETY OF USERS. THE SPEED BUILT INTO THE RAIL UNLOADING AND SHIPLOADING OPERATIONS WILL MEAN QUICK TURNAROUND AND SHORT WAITING PERIODS.

NEW YORK/NEW JERSEY IS THE CLOSEST U.S. COALPORT TO WESTERN EUROPEAN PORTS, SAVING TWO TO TEN DAYS STEAMING TIME ROUND TRIP COMPARED TO OTHER EAST AND GULF COAST PORTS. ONLY THE PORT OF HAMPTON ROADS OFFERS A SIMILAR TIME ADVANTAGE. THE DIFFERENCE BETWEEN SAILING TIMES FROM NEW YORK AND HAMPTON ROADS TO FOS, FRANCE IS ONLY 20 HOURS. (EXHIBIT 3)

WE ARE ALSO CLOSER TO THE NORTHEASTERN INLAND WATERWAY SYSTEM THAN OTHER EAST COAST COALPORTS, SO THAT DELIVERIES OF COAL TO THE UTILITIES CAN BE MADE BY STANDARD BARGES, RATHER THAN THE MORE EXPENSIVE OCEAN GOING BARGES. FINALLY, OUR HARBOR IS CLOSE TO THE OPEN OCEAN AND THE MAIN CHANNEL OF 45' IS DEEPER THAN ANY EAST OR GULF COAST PORT EXCEPT FOR HAMPTON ROADS. DEEPENING OUR CHANNEL TO THE 55 FEET FOR THE SUPERCOLLIERS CAN BE ACCOMPLISHED MORE CHEAPLY THAN AT ANY OTHER U.S. PORT.

CONGRESSIONAL ACTION NECESSARY

CONGRESS HAS A VITAL ROLE TO PLAY IN THE DEVELOPMENT AND EXPANSION OF U.S. COALPORTS. TO MAKE U.S. PORTS COMPETITIVE IN THE COAL TRADE, CHANNEL DEEPENING IS CRUCIAL.

THE MOST IMMEDIATE ACTION CONGRESS SHOULD TAKE IS TO PASS LEGISLATION TO EXPEDITE THE DEVELOPMENT OF CHANNELS AND

PORTS. IN THIS REGARD, WE ARE PARTICULARLY GRATIFIED BY THE LEADERSHIP OF THE CHAIRMAN OF THIS SUBCOMMITTEE, SENATOR WARNER, AND YOUR EFFORTS TO REACH AGREEMENT ON LEGISLATION. IT IS ALSO PLEASING THAT ANOTHER MEMBER OF THE SUBCOMMITTEE -- OUR SENATOR BRADLEY -- HAS SHOWN GREAT INTEREST IN OUR PROJECT AND IN FINDING A SOLUTION TO THE LEGISLATIVE STALEMATE ON PORT DEVELOPMENT.

SENATORS, THE PURE AND SIMPLE TRUTH IS THAT EVEN IN THIS GREAT NATION, NOT ONE EAST OR GULF COAST CHANNEL IS DEEP ENOUGH TO ALLOW A SUPERCOLLIER TO ENTER ITS HARBOR. EUROPEAN COAL IMPORTERS FROM THE NETHERLANDS, FRANCE, AND ITALY HAVE TOLD ME PERSONALLY, AS WELL AS MEMBERS OF THIS SUBCOMMITTEE, I AM SURE, THAT THE INABILITY OF U.S. PORTS TO ACCOMMODATE SUPERCOLLIERS IS A MAJOR LIMITATION ON U.S. COAL EXPORTS. THIS LIMITATION PUTS THE U.S. AT A COMPETITIVE DISADVANTAGE WITH SOUTH AFRICA AND AUSTRALIA AT A TIME WHEN IMPROVEMENT TO OUR BALANCE OF PAYMENTS IS CRITICAL TO OUR ECONOMIC RECOVERY.

VESSELS ARE AVAILABLE NOW TO TAKE ADVANTAGE OF DEEPER HARBORS. IN FACT, ACCORDING TO A RECENT STUDY BY H.P. DREWRY (SHIPPING STATISTICS AND ECONOMICS, JUNE 1982), THERE ARE SOME 420 VESSELS IN SERVICE OR ON ORDER IN THE OVER 70,000 DWT CLASS. IN ADDITION, THERE ARE OVER 250 COMBINATION DRY BULK CARRIERS WHICH REQUIRE A DRAFT GREATER THAN 45 FEET.

ECONOMICS ARE DRIVING THE TREND TOWARD SUPERCOLLIERS. UNIT COSTS OF TRANSPORTING BULK COMMODITIES DECLINE AS VOLUME

INCREASES. FOR EXAMPLE, FROM NEW YORK TO FOS, FRANCE, THE COST PER TON OF CARRYING COAL IN A 150,000 DWT VESSEL IS APPROXIMATELY $5 LESS THAN THE COST PER TON OF CARRYING COAL IN A 72,500 DWT VESSEL. (EXHIBIT 4)

TIME IS OF THE ESSENCE IN WINNING A PLACE IN THE INTERNATIONAL COAL TRADE. SUPERCOLLIERS ARE THE FUTURE OF THE BUSINESS. TIME IS ALSO A MAJOR CONSTRAINT IN UNDERTAKING CHANNEL CONSTRUCTION PROJECTS. FEDERAL CHANNEL PROJECTS TAKE AS LONG AS 24 YEARS FROM THE INITIAL REQUEST TO CONGRESS FOR STUDY AUTHORIZATION TO THE TIME OF COMPLETION. LOCAL CHANNEL PROJECTS ARE SUBJECT TO COMPLEX REGULATORY PROCEDURES WHICH WOULD CAUSE UNACCEPTABLE DELAYS IN DEEPENING THE CHANNEL.

THE MEASURES INITIATED BY THE PRESIDENTIAL TASK FORCE ON REGULATORY RELIEF AND RECENTLY PUBLISHED BY THE CORPS OF ENGINEERS ARE POSITIVE STEPS TOWARD A REMEDY FOR THE BOTTLENECK ON PERMITS. IN AUGUST, THE ENVIRONMENTAL PROTECTION AGENCY ANNOUNCED IN THE FEDERAL REGISTER ITS INTENTION TO SIMPLIFY GUIDELINES ON THE DISCHARGE OF DREDGED MATERIALS. WE HOPE THE PROPOSED REVISIONS WILL EXPEDITE PROCEDURES FOR PERMIT APPROVAL AND WILL LEAD TO SCIENTIFICALLY SOUND DECISIONS.

IN JULY, THE CORPS PUBLISHED INTERIM FINAL RULES IN THE FEDERAL REGISTER WHICH COULD SIMPLIFY OTHER PERMITTING PROCEDURES. NOTABLY, THE CORPS' ACTION ON PERMITS WHICH DO NOT REQUIRE AN ENVIRONMENTAL IMPACT STATEMENT UNDER NEPA COULD BE

REDUCED FROM A PERIOD OF 120 DAYS TO PERIOD OF 60-90 DAYS. WE ARE CONCERNED THAT THIS GOAL IS HIGHLY OPTIMISTIC, GIVEN THE MANY EXCEPTIONS NOTED IN THE REGULATIONS.

CLEARLY, WE HAVE NO TIME TO WASTE. THE REGULATORY AND CONGRESSIONAL TIME FRAMES IN PLACE FOR FEDERAL AND LOCAL INTEREST CHANNEL PROJECTS ARE UNACCEPTABLE. I AM CONCERNED THAT UNLESS U.S. PORTS ARE DEEPENED BY THE SECOND HALF OF THIS DECADE, WE WILL MISS THE COAL EXPORT BOOM FORECAST FOR THAT TIME. WE WILL ALSO BE SHIRKING WHAT I BELIEVE IS THE DUTY OF THIS COUNTRY TO PROVIDE OUR ALLIES WITH A PRACTICAL ALTERNATIVE TO SOVIET NATURAL GAS. THE SOONER THAT ALTERNATIVE IS MADE AVAILABLE, THE MORE CONFIDENCE OUR EUROPEAN ALLIES WILL HAVE IN THE U.S.

FINALLY, MR. CHAIRMAN, MOST PORTS ARE WILLING TO DO THEIR PART, INCLUDING COVERING A PORTION OF PROJECT COSTS, IN ORDER TO GET PORT DEVELOPMENT MOVING AGAIN. I URGE THIS SUBCOMMITTEE AND OTHERS IN CONGRESS TO ACT DECISIVELY ON PORT DEVELOPMENT IN THE NEXT SESSION OF CONGRESS. YOUR ACTION WILL BE A SIGN TO EUROPE THAT WE AS A NATION ARE COMMITTED TO PORT CAPACITY TO MEET THEIR FUTURE NEEDS.

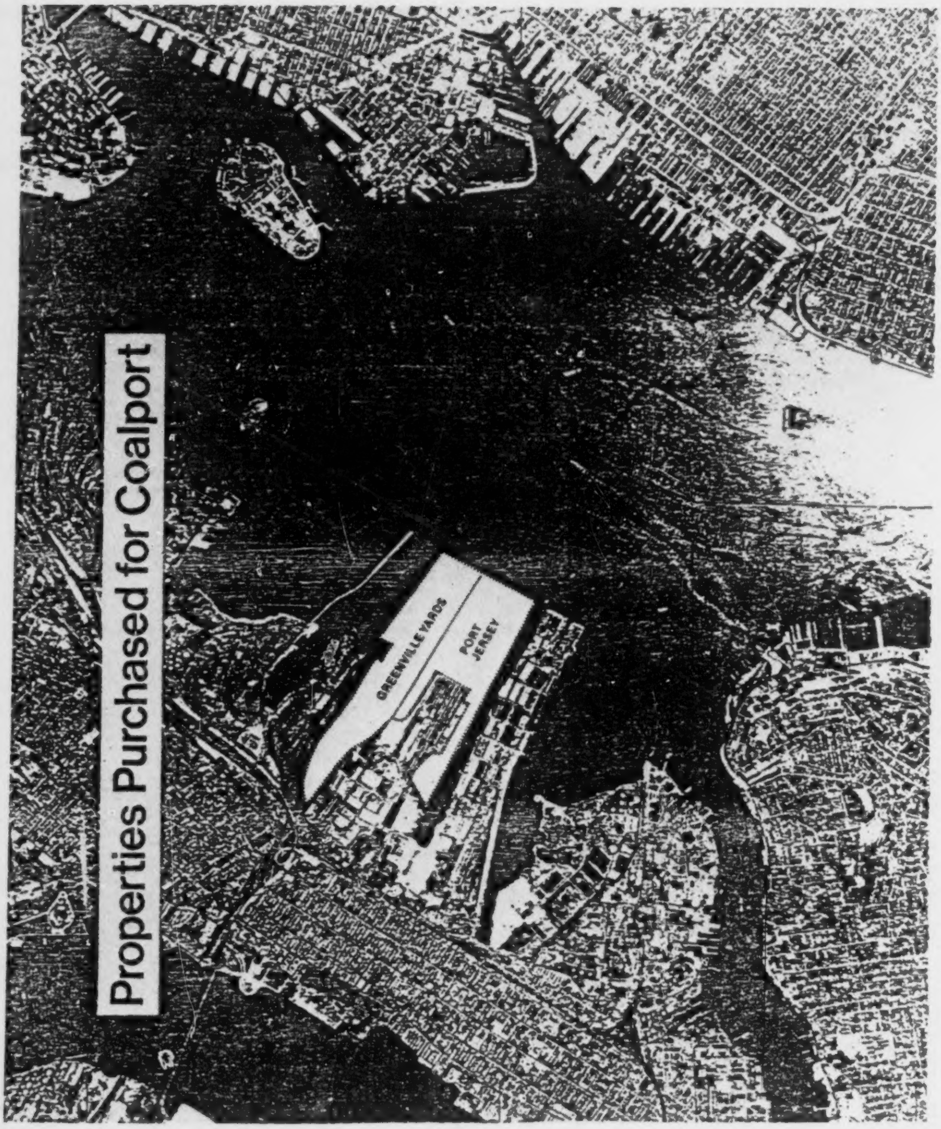
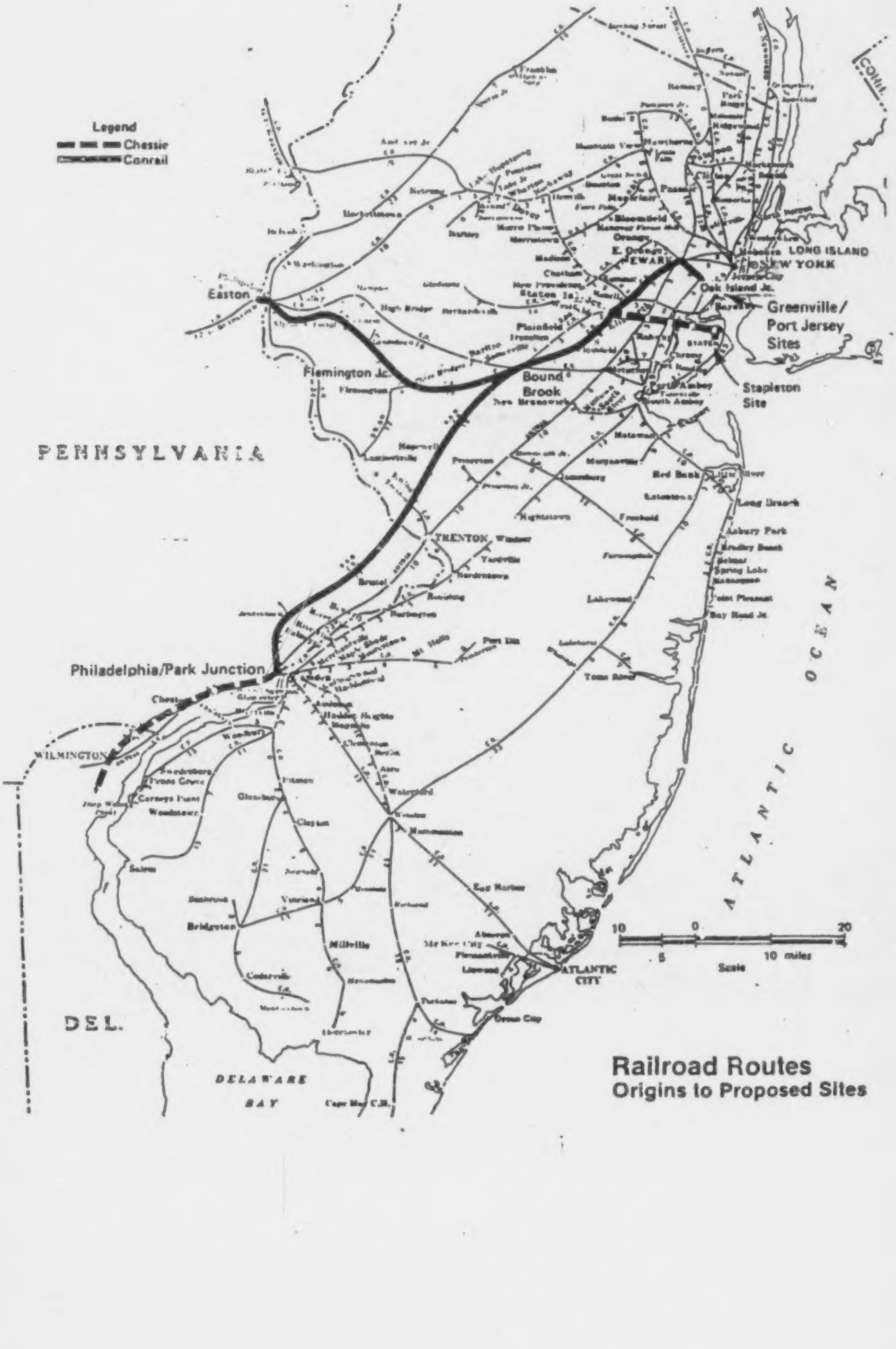
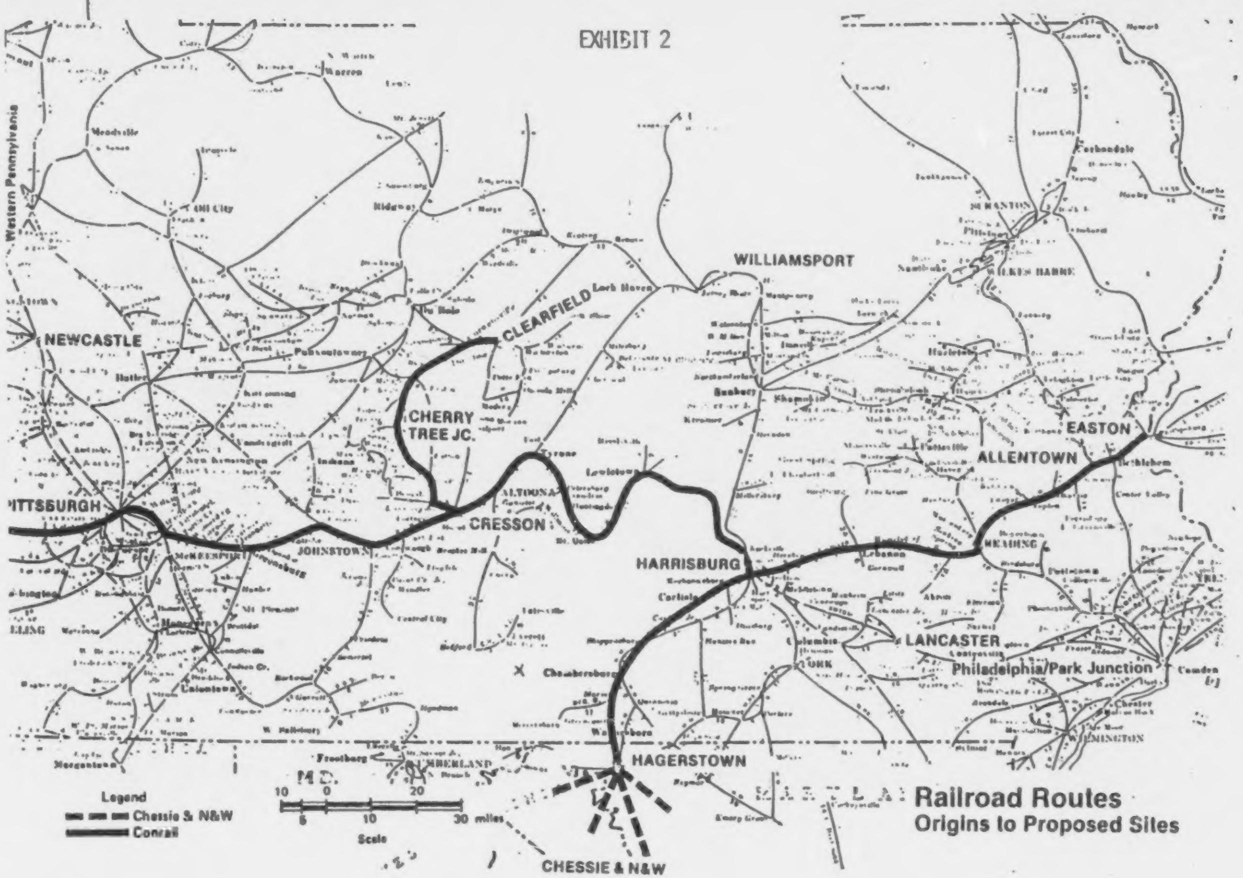

Properties Purchased for Coalport
GREENVILLE YARDS
PORT JERSEY

EXHIBIT 2



Railroad Routes
Origins to Proposed Sites

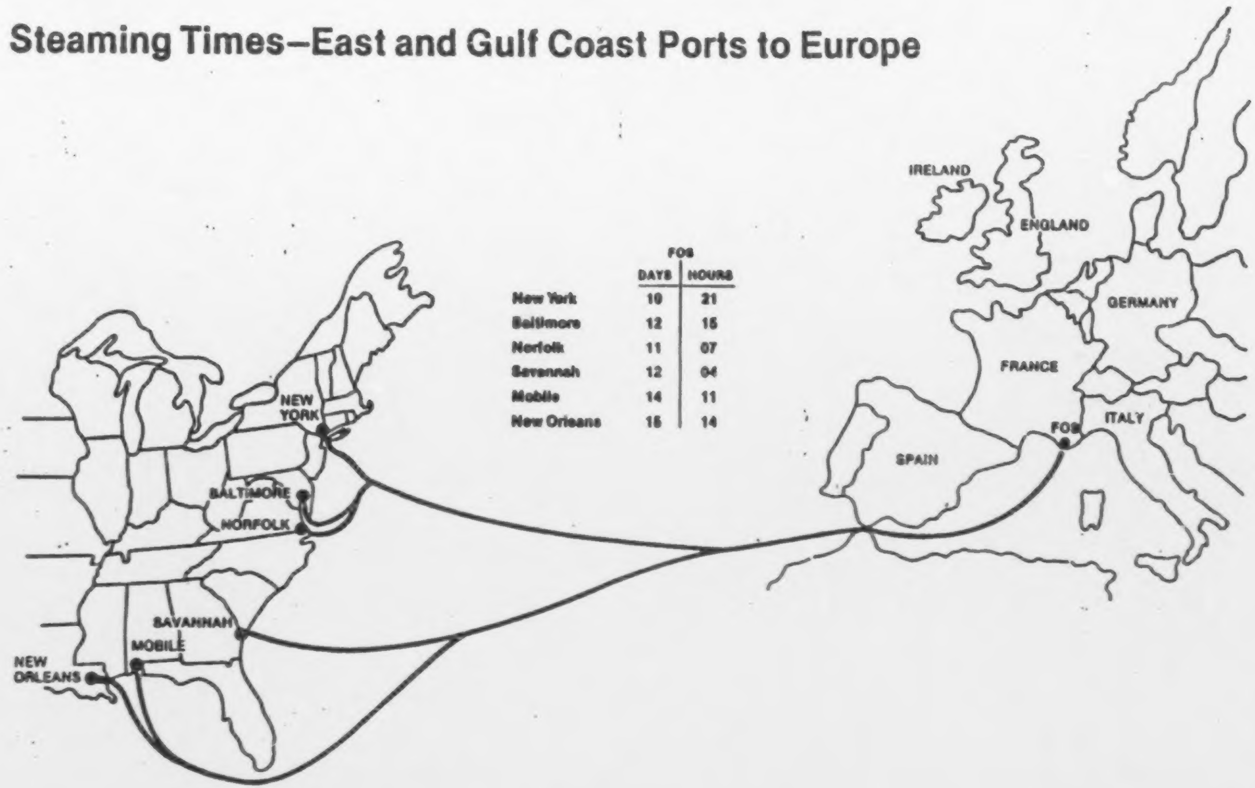
EXHIBIT 2



Railroad Routes
Origins to Proposed Sites

EXHIBIT 3

Steaming Times–East and Gulf Coast Ports to Europe



	FOS	
	DAYS	HOURS
New York	10	21
Baltimore	12	15
Norfolk	11	07
Savannah	12	04
Mobile	14	11
New Orleans	15	14

EXHIBIT 4

ECONOMIC COMPARISON - GEARLESS BULK CARRIER

NEW YORK TO FOS FRANCE

VESSEL SIZE (DWT)	72,500	150,000
DRAFT (FEET)	45	55
VOYAGE COSTS ($000)*		
VESSEL HIRE	$ 488	$ 518
FUEL	294	421
STEVEDORING (FIO)	-	-
PORT CHARGES	65	110
DISPATCH/DEMURRAGE (NONE)	-	-
COMMISSION	42	52
TOTAL VOYAGE COSTS	$ 889	$ 1,101
COST/LONG TON OF COAL CARRIED	$ 13.19	$ 8.02

* SHINC LOAD/SHEX DISCHARGE
FOREIGN FLAG
FUEL PRICES USNH
VESSEL HIRE-CURRENT ANNUAL TIME CHARTER RATE

Senator **Warner**. The subcommittee has now concluded the first day of hearings.

We stand adjourned. I understand there is a Mr. Mendelsohn present.

STATEMENT OF ALLAN I. MENDELSOHN, ON BEHALF OF CANADA STEAMSHIP LINES, INC.

Mr. **Mendelsohn**. Yes, Mr. Chairman. If you would permit me, I would like to just address you for a few minutes.

I have the pleasure of representing Canadian Steamship Lines in the United States, and I want to apologize profusely on behalf of Mr. Pitre. He was not just delayed because of traffic. He was on his way this morning at 7 o'clock from Montreal, and I suspect something has happened, as a consequence of which he is not here. When I spoke with his wife this morning at 7:15——

Senator **Warner**. We accept your representation, and we hope there is nothing of any personal consequence. Now what do you wish to do in terms of the record here?

Mr. **Mendelsohn**. I would like to just give you a few thoughts, leave you with a few thoughts, Mr. Chairman, and then following the hearing with Mr. Pitre arrives in Washington we will introduce the statement for the record.

Let me say that it has been a great pleasure representing Canadian Steamship Lines. They have pioneered a concept, a technological concept that you have heard a great deal about, and that is the self-unloading vessel. Mr. Morris spoke about the self-unloading vessel. Mr. Joseph spoke about the self-unloading vessel. Milton Copulos spoke about it.

Canadian Steamship Lines has that vessel, and it has been used regularly in the St. Lawrence Seaway to load up vessels upward of 165,000 tons for shipment to Europe and to the Far East. We had every intention of bringing those vessels down to the east coast for use in Hampton Roads, for use off the coast of, for use by Baltimore, principally in the Delaware Bay, and it was interesting to hear the testimony of the gentleman from the Delaware Bay because we can load up the 25 percent of the vessels that Mr. Payne spoke about that go out half loaded or two thirds loaded. We can load up those vessels tomorrow to 150,000 tons of coal, and Mr. Chairman, that is the kind of immediate action that would bring realization of the precise goals that you and we and the Canadians wish, namely, to see reliable transportation of coal from Canada and North America so as to assure that we are not dependent upon Arab oil.

We ran into a problem which is a regulatory impediment, and I should mention that problem, and I should mention very briefly what we are doing, and then I will leave.

We ran into the problem of the Jones Act which is a rather ancient but steadfast part of America that prevents the carriage in commerce of merchandise between two United States points.

Senator **Warner**. Other than American flag?

Mr. **Mendelsohn**. Not just American flag vessels—American flag vessels built in the United States. It is not our view that the transshipment of the coal that we intend, that we would like to provide off the Delaware Bay, constitutes the shipment or the transportation of merchandise between two U.S. points. This coal will never return to the United States. This coal is going to Europe and the Far East.

A bill of lading is cut, whether it be Hampton Roads or whether it be at Baltimore, and that coal, that bill of lading states that the destination of the coal is Rotterdam or France or Japan, and we think, therefore, that it is not the Jones Act.

We are, however, pursuing all the appropriate remedies. We will be going through the Customs Bureau and we will be seeking out an interpretation, either an interpretation that the Jones Act is not applicable to this transportation, or in the alternative, a waiver based upon the fact that use of these coal vessels even on an interim basis for a year or so until the United States moves toward the 1 foot of dredging that Mr. Payne spoke about, the 1 foot that would make it so helpful to Hampton Roads—until the United States moves in that direction, we could provide a service that would make this Nation a major supplier of coal throughout the world, and it would be very much in the national defense interest of this country if we were able to do that.

That is my statement. I again apologize.

Senator **Warner**. Thank you very much. As noted earlier, the Chair said that my statement would be put in the record, but the essence of it is the national security implications of this issue. I wonder—maybe it is speculation—that this whole controversy over the Soviet gas pipeline might not possibly have been avoided or alleviated had the United States marched out ahead 8, 10 years ago on the subject that we are addressing today.

The Chair will continue to look at all aspects of this, and the next time we will speak to the constitutional responsibility of the Congress given the power over our ports to exercise this in a fair and equitable manner.

Thank you. We adjourn, subject to the call of the Chair.

[Whereupon, at 11:35 a.m., the hearing was adjourned, subject to the call of the Chair.]

APPENDIX

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

ALABAMA STATE DOCKS DEPARTMENT AN AGENCY OF THE STATE OF ALABAMA
TWX 810 741-7748
P.O. BOX 1588
MOBILE, ALABAMA 36633

July 13, 1982

Energy and Mineral Resources Subcommittee
Committee on Energy and Natural Resources
Room 3204
Dirksen Senate Office Building
Washington, D. C. 20510

Attention Mr. Roger Sindelar

Dear Mr. Sindelar:

With reference to the Senate Energy and Mineral Resources Subcommittee which will conduct oversight hearings to examine the United States Foreign Coal Export Market July 27, 29, and 30 in Washington, D. C., and with specific regard to issues concerning present port capabilities and projections, we are attaching hereto a statement on behalf of the Alabama State Docks Department Port of Mobile concerning developmental programs in this regard at the Port.

We would request that that this statement be entered into and made a part of the Public Record of these Oversight Hearings.

Thank you for your cooperation.

Sincerely,

E. G. Browning, Jr.
General Traffic Manager

EGB:lcw

Attachment

Statement on Behalf of the Alabama State Docks Department Presented at Oversight Hearings of the Subcommittee on Energy and Mineral Resources, Committee on Energy and Natural Resources, July 27, 1982

The Alabama State Docks Department is the Terminal Facilities Operator for the Port of Mobile and in this posture owns and operates bulk cargo and general cargo handling facilities, piers, wharves, docks, and a Terminal Railway at the Port of Mobile.

The Alabama State Docks Department has been in operation since 1928 and tonnages through the facilities and the Port of Mobile have increased to approximately forty million tons on an annual basis.

Since 1976, the Department has been involved in a developmental program adding to its facilities and expanding its ability to handle large tonnages of bulk ores, coal, and grain. In this connection in 1975, the Department placed into operation its McDuffie Export Coal Terminals capable of handling approximately five million tons per year of export coal and equipped with a barge unloader, rotary rail car dump, stacker/reclaimer, two storage pads capable of 500,000 tons of ground storage, ship dock with high-speed ship loader, on line weighing and sampling stations and a rail receiving yard.

In 1981, McDuffie Terminals was expanded with the second phase development which included the second barge unloader, the second stacker/reclaimer, the third and fourth storage pads bringing ground storage capability to 1.1 million tons. The completion of existing trackage into a loop for the handling of unit trains and expansion of through put capability to approximately 10 million tons annually.

Prior to the completion of Phase Two, construction commenced on Phase Three which is scheduled for completion the first quarter of 1983. Phase Three will include the third barge unloader, the second rotary rail car dump, a tandem facility capable of dumping two rail cars per cycle, the third stacker/reclaimer, the fifth and sixth ground storage pads bringing ground storage capability to 2 million tons, the second ship dock and a high-speed shiploader capable of delivering coal to a vessel at 7,000 tons per hour. New testing and weighing facilities along with ancillary mechanical shops are also included in the Phase Three Development Program.

After completion of Phase Three, McDuffie Terminals will have the capability of handling approximately 25 million tons of export coal on an annual basis, and represents the highest technology in coal handling operations in the United States.

In addition to the McDuffie Export Coal Terminals the Alabama State Docks has also provided increased capability at its Bulk Material Handling Plant with the inclusion of a new rotary rail car dump, new conveyor systems and additional ground storage. This plant is expected to be capable of exporting 2 to 2.5 million tons of coal or coke on an annual basis.

Recommendations have been made by the Mobile District Office of the United States Army Corps of Engineers, approved at Regional Headquarters in Atlanta, Georgia, and approved by the Chief of Engineers' Review Board of Rivers and Harbors for a Harbor Development Program which would include additional anchorages, turning basin, and the deepening of the Mobile Ship Channel from its present forty feet to fifty-five feet. This program is now awaiting congressional authorization and funding.

Since 1976, the Alabama State Docks Department has invested in excess of $250 million on the Department's operations at the Port of Mobile with approximately $110 million of that total amount specifically budgeted for export coal handling facilities.

The foregoing represents an accurate reflection of the development programs at the Alabama State Docks in regard to coal handling capabilities and we would request that this statement be entered into and made a part of the Public Record of these Oversight Hearings.

STATEMENT OF TESTIMONY
by
Gary L. Failor, President
International Association of Great Lakes Ports
before
Senate Subcommittee on Energy & Mineral Resources
Washington, D. C.

September 17, 1982

On behalf of all maritime interests throughout the Great Lakes-St. Lawrence Seaway transportation system, I appreciate the opportunity to become part of the testimony recorded before this committee.

My name is Gary L. Failor, and as seaport director at the Port of Toledo and as president of the International Association of Great Lakes Ports, I can assure you that we share many of the problems and concerns confronting all other port ranges of the country. Let me also candidly say that until now, we on the Lakes have had to fiend for ourselves, both in dealing with the federal government and in dealing with other port ranges.

My comments will identify the fact that now is an opportune time to join our efforts to the benefit of all East, West, Gulf and Great Lakes ports. You will quickly see the disadvantages outside interests have placed on the Lakes. I will also show you a way in which we can support some of the needs of East and Gulf ports, in return for their support of our efforts on the Great Lakes.

What I suggest is that the facilities and capabilities on the Great Lakes can, and do, contribute to the success of the United States as a major coal supplier for the rest of the world. And, we all need to work together, so that the maritime industry can finally approach our congressional representatives with ideas, programs and legislation which benefit us all and not just a select few.

For instance, the Lakes' ports have continually been ignored or statistically misrepresented by federal coal shipping capacity studies. And, to be quite honest, we question the reality of the potential capacity statistics being promoted by the East and Gulf port ranges. With the facilities already in place in this country, it's difficult to comprehend the actual construction of all the coal-loading facilities being planned.

So, please let me set the record straight as to the actual coal-loading capacities available on the Lakes. Our present coal-loading facilities have an effective capacity of 70.5 million tons. Since nearly 37.5 million tons of coal were shipped through Lakes' ports in 1981, we have an excess throughput capacity available of more than 33 million tons.

Of course, right now worldwide coal markets are soft, and according to John T. Collinson, president and chief executive officer of the Chessie System Railroads . . . the nation's largest coal carrier . . . the current surplus of coal is a short-term condition primarily related to the world economic picture. Mr. Collinson also says the potential U.S. coal shipments are very strong. We, throughout the Great Lakes-St. Lawrence Seaway international water route, can help meet those strong future requirements.

The Great Lakes is already providing overseas shipments, and we offer several shipping alternatives to meet foreign coal buyers' needs. Coal moves through the Lakes by transshipment, direct load or mid-stream transfer in deep waters of the lower St. Lawrence River. As a matter of fact, the Lakes are similar to the Mississippi River system, regarding coal shipments. However, instead of barge movements, we have 30,000-ton vessel capacities, and we transfer into 160,000 deadweight ton vessels instead of 75,000 ships loading in the Gulf . . . and, at a rate of 8,000 tons per hour instead of 2,250 tons in the slower loading river system.

As a matter of fact, I should emphasize that the Lakes handle the largest coal colliers serving the world's export coal markets. We have loaded several 160,000-ton vessels, and no other port range in our country has the capability to accommodate these economical movements. You should keep in mind that these are not Canadian diversion shipments, because all the coal is moving through our U.S. ports on the Lakes.

But yet, we get ignored and even suppressed by the federal government through discriminatory regulations.

Please understand, though, pity and sympathy we do not seek from Washington, because Lakes' leaders are actively promoting our capacities and capabilities. What we do seek, however, is the elimination of preferential treatment the federal government and railroads give to East and Gulf coast ports. We'd like the federal government to allow the free marketplace to operate and let coal move in whatever method and from whatever ports are

4

the most efficient and economical.

Just leave us alone on this one, unless the federal government can finally offer productive assistance to help the economic well-being of the Great Lakes. The federal bureaucracy has beleaguered the Lakes for years and years with Seaway tolls, trigger price mechanisms, grain embargoes and a lack of equitable preference cargo guidelines. And now, once again, the federal government tries to turn its back on a 33-million ton excess coal-loading capacity on the Lakes, so that East Coast interests can have deeper channels to build bigger coal facilities.

That's fine, but don't do it at the expense of the Lakes anymore. There are proposals now pending in Congress that would help other port ranges deepen their channels, but it would also help rid the Lakes of the financial albatross East Coast and railroad interests put around our neck when the Seaway was constructed.

Legislation introduced by Congressman Ed Weber (R-Ohio) and Senator Mark Hatfield (R-Ore.) permits deepening of navigation channels to more than 45 feet. This language, in any bill, will help East and Gulf coast interests get their deeper channels more quickly.

Congressman Weber's and Senator Hatfield's legisation also finally gives the Lakes some parity with the other port ranges, because we must be guaranteed forgiveness of the Seaway construction debt and the permanent elimination of all tolls on the U.S. portion of the St. Lawrence Seaway. Also, as user charges become more inevitable with the strong support from the

Reagan Administration, you must help us preserve one of the nation's greatest transportation assets and give us an acceptable user charge program.

As I said earlier, the Lakes and other port ranges share many common problems, and until we start joining forces to influence decision makers in Washington, we'll not share many of the common solutions from which we can all benefit.

In plain and simple language, the Lakes can help East and Gulf coast ports attain their objectives. At the same time, there are problems which the Lakes need support from other port ranges. There is room for compromise on both sides, particularly as user charge proposals emerge to the forefront again.

But let me also say that Lakes' interests are committed to stonewalling any attempts made by any other port range to continue the discriminatory treatment the Seaway system has struggled with for more than 20 years. We have valuable coal-loading assets on the Lakes, and foreign coal buyers realize that. We don't seek preferential treatment . . . merely a little parity.

PORT
OF
NEW ORLEANS
CENTROPORT
U.S.A.

September 10, 1982

Mr. Roger A. Sindelar
Counsel
Subcommittee on Energy & Mineral
Resources of the Senate Committee
on Energy and Natural Resources
3204 Dirksen Senate Office Bldg.
Washington, D.C. 20510

Dear Roger:

Enclosed is a copy of a statement from the Port of New Orleans that I would appreciate your including in the record of the September 17, 1982, hearing of the Energy and Mineral Resources Subcommittee of the Senate Energy and Natural Resources Committee. I appreciate your assistance.

With best regards.

Sincerely,

Herbert R. Haar, Jr.
Assistant Executive Port Director

HRH:lm

Enclosure

OUTLOOK FOR COAL EXPORTS ON THE LOWER MISSISSIPPI RIVER

PRESENTED BY

HERBERT R. HAAR, JR.
ASSISTANT EXECUTIVE PORT DIRECTOR
BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS

FOR THE RECORD OF THE HEARING OF THE

ENERGY AND MINERAL RESOURCES SUBCOMMITTEE

OF THE

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

WASHINGTON, D.C.

SEPTEMBER 17, 1982

Over the next decade, total U. S. waterborne commerce is expected to further increase by thirty-two percent. Coal alone now accounts for ten percent of all tonnage passing through U. S. seaports. From this perspective, it can easily be seen why coal is the driving force behind port expansion and development in this country.

Coal, of course, is not the only major bulk cargo the U. S. exports. We are already the world's largest grain exporter, accounting for sixty percent of all grain exports. A full twenty-five percent of the cash receipts of the agricultural sector of our domestic economy now comes from our export trade.

Export trade presently accounts for over twenty percent of the U. S. annual Gross National Product of $2.8 trillion. In the manufacturing sector, one out of eight U. S. jobs involves production for export. More significantly, every region of the United States is dependent upon expanding international trade, and no region is insulated from the economic impact of an imbalance in our international trade. Likewise, every trading region is vitally dependent upon the continuing capability of our ports as "national assets" to provide the critical link between America's productive heartland and our growing overseas markets as the necessary supporting infrastructure for international trade.

The single most important action that can be taken by the Congress is to overcome the present intolerable time delay in waterway projects. Addended to my statement for the record is a suggested fast-track criteria (Appendix I) which essentially addresses the handling of environmental impact statements and assures a method of expeditious judicial review.

Relative to cost sharing and cost recovery programs, the ports in general feel that such plans are not in keeping with the historic relationship of the Federal Government to local public port entities, which ports have in fact provided, essentially at their sole cost, the vast majority of public port improvements presently in use throughout this country. However, we must recognize the strong legislative sentiment in favor of some method of partial federal cost recovery. In this regard, we at the Port of New Orleans favor an approach being developed by Mr. Roe, Chairman of the Water Resources Subcommittee of the House Public Works and Transportation Committee, that would utilize Customs revenues for all maintenance dredging nationwide and for new deepenings to 45 feet with not over 50 percent cost sharing on deepenings over 45'.

Regarding this, we can find no justification for such recovery unless the definite benefit of fast-track legislation accompanies it and would hope that, at most, the Congress would not impose on the local entities more than an equal share of such costs. Further, it is absolutely essential that any federal legislation dealing with cost sharing or cost recovery grant to the local or state assuring agency full and absolute legal authority to impose charges on cargoes and/or vessels utilizing or benefiting from any improvements covered by such cost sharing - or such charges must be imposed and recovered from the direct beneficiary of any waterway deepening - the vessel and/or its cargo. In this regard, we believe it absolutely essential as a follow-up to the enactment of fast-track deepening legislation and the changes in the present federal/local port relationship and the final imposition of any cost recovery schemes, that a study, not to exceed six months in length and jointly chaired by the Assistant Secretary of Commerce for Maritime Affairs and the U. S. Trade Representative, be made to determine the impact of any such scheme of charges or recovery of costs on the competitiveness of the United States in international trade, the impact on the traditional distribution of maritime commerce between the various ports of the United States, as well as the possible impact of diverting such cargoes to ports outside of the United States, and further, such a study should consider the various possible methods of imposing such cost recovery charges.

We feel very strongly regarding this recommendation. Such a study is absolutely essential in view of the possible impacts on trade in gneral, on balance of payments, on the continuing ability of any American ports to meet the various needs of international trade, as well as the involvement of ports in national defense.

In conducting such a study the potential detrimental effect of pyramided, cumulative waterway user and cost recovery charges must be considered. A towboat fuel tax of 6¢ per gallon is already in effect, and it is scheduled to be increased to 10¢ in 1985. But, there are proposals to increase that tax drastically on an accelerated schedule, and to institute various other charges, such as, inland waterway tolls and fees to recover U. S. Coast Guard and U. S. Customs costs in addition to lock replacement charges. However, no apparent effort has been made to determine the ultimate cumulative effect these proposals would have on costs of our exports as compared to the world competition. It is imperative that a realistic analysis of the effect of pyramided, cumulative charges on our export posture be performed in connection with the deliberations on dredging cost recovery measures for the deepening of our nation's several major ports that will be involved in grain and coal exports.

It is our belief that these factors have not to this date been properly evaluated. We believe they must be fully considered before any major changes take place in the traditional funding arrangements unless we risk drastic adverse effects not only on certain American ports and related communities, but also on America's role in world commerce.

This is not to overlook the fact that time is of the absolute essence in the deepening of certain United States ports, if in fact the United States is to benefit from the potential offshore steam coal market. The United States must not lose this tremendous economic and job-oriented export opportunity. Yet, if we are to take advantage of it, it must be done in a manner that is not devastating to portions of our existing port system and related economy. In this regard, enclosed as Appendix II is a statement of the Port of New Orleans' position on waterway user charges.

Continued delays inherent in our present system are intolerable, if in fact the U. S. intends to regain its proper place in world trade and commerce.

Now, I would like to focus in on the Gulf Coast area and tell you something about what is happening with the 4 ports on the lower Mississippi River that have the potential for the most dynamic explosive projected coal terminal development program in the nation today.

The Board of Commissioners of the Port of New Orleans is a strong advocate for the deepening of the Southwest Pass of the Mississippi River and for a 55 foot channel all the way to Baton Rouge. The total waterborne commerce (foreign and domestic) on the Mississippi River below

Baton Rouge involving several port authorities was 600,000,000 tons in 1979. This is 29% of the nation's total waterborne commerce. Louisiana deepwater ports handled over 20% of all the nation's foreign commerce in 1979. The economic impact of their foreign commerce (excluding petroleum) represents 266,667 jobs with a financial impact of $9.5 billion.

The growth of U. S. grain exports over the past 10 years is a phenomenal success story -- a marvelous example of the free enterprise system at work.

During the last decade, world grain trade just about doubled -- rising from 108 million tons to 213 million tons. During the same period, U. S. Exports increased from 46 million tons to 127 million -- a gain of more than 250%. The U. S. share of world trade has risen from 40% to almost 60%. This is an example of growth both in real terms and relative terms. During the same 10-year period, Canada's exports have remained unchanged.

The ten modern export grain elevators between Baton Rouge and the Gulf handled 43% of all the nation's grain export in 1981. Clearly, our economy has benefited in terms of foreign exchange earnings and the creation of jobs. In fiscal 1979, agricultural exports amounted to $32 billion, or 20%, of this country's exports. Agriculture had a favorable balance of trade of $16 billion whereas the country had a deficit balance of $28 billion in total --

clearly demonstrating the importance of grain exports as the major dollar earner. Conservative projections by the grain exporters show that by the year 2000 this grain movement alone will represent 90 million tons annually.

Producing grain for the expanding world demand would not have resulted in the huge growth of exports had there not been commensurate growth in handling facilities and capability. Continental Grain Company alone is investing a quarter of a billion dollars in rebuilding its Port of New Orleans terminal. Huge private investments have been made in export terminals, interior loading stations, hopper cars, and barges. It is only natural that much of this capital has been invested in facilities from Baton Rouge to the Gulf on the Mississippi River. The river is the cheapest link between the main producing areas of this country and the major foreign markets. What is missing is the ability to get efficient bulk carriers, 120,000 to 150,000 dead weight vessels, to these modern export grain elevators.

The project to provide a 55 foot channel from Baton Rouge to the Gulf has strong local support. The President of the United States and former President Carter have both spoken in favor of the project. The Louisiana Congressional Delegation is strongly in favor, and Senator Johnston and Congresswoman Boggs have prepared legislation to expedite the required review and funding.

It is uncommon to find a waterway project with such a high benefit to cost ratio -- 9.1 to 1 -- based solely on the 1976 cargo movements. In the Port's opinion, this benefit to cost ratio could be doubled if the Port's projected coal exports are included.

The Port is in a position to see, on a day-to-day basis, the trends in international trade and the world markets available for U. S. goods. The Port's trade offices are located strategically throughout the United States and the world. From reports received within the past year, we are able to say unequivocally and without hesitation that the future is very bright provided the deepening can be accomplished on an expedited schedule. We project coal exports for the 4 ports on the lower Mississippi River to have extremely rapid growth -- starting from 2 million tons in 1979 to 4 million tons in 1980, 14 million tons in 1981, to a definite on line capability to handle 70 million tons by 1983, and possibly 100 million tons plus by 1990 (See Appendix III).

Even though coal movements in the U. S. and worldwide are off at this time, we expect that by late 83 or early 84 to see a major turn around and our 81 boom in exports to happen again and then snowball thereafter. To this end, our local businessmen in the New Orleans area are investing and negotiating joint ventures with major European ports.

This tremendous interest in the lower Mississippi River, between Baton Rouge and the Gulf, is directly related to the ability of the Mississippi River to transport large volumes of coal. The barge lines recognize this, and two barge lines -- The American Commercial Barge Line and The Federal Barge Line -- have invested over $55 million in modern, efficient rail-to-water transfer facilities, capable of handling 25 million tons of coal per year on the upper Mississippi River. The barge lines can transport this coal coming from the states bordering on the upper Mississippi River and its tributaries to the planned coal export terminals in tows of 60,000 tons each.

In conclusion, I would like to quote from a statement made in June 1980 by David S. L. Chu, President of the Taiwan Power Company:

"America is the world leader in many ways, and Americans, with your frontier spirit and resourcefulness, are in the position to master this age to help yourselves and other peoples. On the other hand, if you miss this age, your coal, though plenty, could be left buried forever."

The ports on the lower Mississippi River and the private sector that are expanding existing and will be building the new coal terminals in this area are ready and even ahead of schedule -- we must now look to the Congress and the Administration to pass, fund, and approve the port development fast-track deepening legislation to make it all come together or risk as Mr. Chu said - leaving our coal to be buried forever.

Thank you.

APPENDIX I

RECOMMENDED FEATURES OF DEEP DRAFT LEGISLATION

A number of bills have been introduced (and reintroduced) recently in both the Senate and the House to authorize a "fast track" procedure for "deep draft" dredging projects. Any deep draft legislation finally enacted should contain the following features:

I. Fast Track Procedure

A. To avoid the delays inherent in the normal course of the environmental permit process, the legislation should provide for submission to Congress of an EIS addressing the purposes, policies and requirements of the various environmental laws, with the further provision that, absent Congressional disapproval by concurrent resolution within 60 days, the requirements of these environmental laws will be considered as satisfied.

B. With respect to ports not specifically named in any authorizing legislation itself, provision should be made for Congressional approval of the navigation improvement (as satisfying the generic criteria required for use of the fast track procedure) either (1) as part of Congressional approval of the EIS for the project, or (2) by provision for a threshhold submission to Congress, with further provision that, absent Congressional disapproval by concurrent resolution within 60 days, the navigation improvement will be considered as authorized.

C. The legislation should follow the provisions for judicial review in "the Trans-Alaska Pipeline Act," 43 USCA Sec. 1652(g), in (1) restricting judicial review to allow only the assertion of claims alleging the invalidity of the Act, the denial of Constitutional rights under the Act, or action in excess of authority under the Act; in (2) requiring the filing of such claims within 60 days of the action in question; in (3) precluding the issuance of injunctive relief except in connection with a final judgment; and in (4) allowing direct appeal to the Supreme Court.

D. The legislation should not allow the assertion of claims alleging the inadequacy of the final EIS after the EIS is considered approved by Congress. Such a legislative finding and determination should not be subject to judicial review by claimants who disagree with the legislative wisdom of the decision. Congress' judgment should remain final, except as limited by the Constitution.

E. The provisions for judicial review should be the sole and exclusive means for review of navigation improvements under the Act.

July 2, 1982

PORT OF NEW ORLEANS POSITION ON WATERWAY USER CHARGES AND COST RECOVERY

The Port of New Orleans, even though it is philosophically opposed to waterway user charges and cost recovery, understands that it is the sentiment of the Congress and of the Administration that some level of charges be enacted into law in the near future. It therefore believes that whatever form of charges is imposed must meet certain basic criteria. This criteria must take into consideration that waterway transportation has both the aspect of a public utility and a private business and therefore there should be a strong public interest factor considered. In other words, the principle of user charges, the public good and the national interest must all be a part of the final equation.

In view of the diverse non maritime beneficiaries of the nation's waterway system as well as national defense aspects and further in recognition that the benefits of the maritime segment of the national waterway system spread well beyond the directly related maritime community, user charges should not be unduly levied against commercial waterway users. Further, overly burdensome charges on these users may tend to make American exports non competitive in world markets. Therefore, we believe that total user charges levied for operations and maintenance costs and deepening to 45 feet or less should approach no more than an equal sharing between the Federal Government and the commercial maritime users. Any deepening projects over 45 feet should be on a equally shared Federal (general fund) and local (user charge) basis. The Port feels that these 2 proposals should be the only additional charges imposed. It is felt that if all of the other charges, i.e., segment, Coast Guard cost recovery, lock replacement, Customs overhead, additional fuel taxes on towboats, etc. now being proposed by the Administration were enacted the cumulative impact would be so devastating on the cost of a large part of our foreign commerce that the United States could lose substantial trade in world markets with the resultant adverse impact on the national economy.

It is therefore the opinion of the Port of New Orleans that these other charges should be studied by the Department of Commerce and the Department of Transportation over the next 2 years with major input from the ports and the private sector, and a report made back to the Congress on this issue. This would also allow time to assess the effect on world trade and the continued viability of our national ports and waterways system of the uniform user charges for O&M and joint sharing on major new deepening projects. It would also permit a more rational assessment of the impacts of the transportation revolution that is taking place in the United States today without the benefit of short or long-term planning. This recommendation would also have the advantage of allowing the United States to move forward quickly on waterway projects that are vital and enabling the nation to take advantage of world coal and grain trade. This proposal would also keep the Administration's options open for the fine tuning of existing user charges and augmenting them as it is deemed necessary and feasible based on additional information and experience that would be available 2 years from now.

APPENDIX II

EXISTING AND PLANNED NEW COAL TERMINALS FOR THE MISSISSIPPI RIVER-BATON ROUGE TO THE GULF AND THE MISSISSIPPI RIVER-GULF OUTLET

NAME & LOCATION		1984 CAPACITY	1990 CAPACITY
Electro-Coal Transfer Terminal Mile 55 AHP (East) Tampa Power & Light Co. Existing Being Expanded		12 Million Tons (a)	25 Million Tons (b)
International Marine Terminals Mile 57 AHP (West) Florida Power/Houston Nat. Gas Existing Being Expanded		15 Million Tons (a)	25 Million Tons
Ryan-Walsh Stevedoring Bulk Terminal (MR-GO) - Existing		4 Million Tons (a)	4 Million Tons
Freeport Coal Terminal Co. Mile 39.2 AHP (West Bank) Freeport-McMoran Inc. Design Complete - Constr. Delayed		4 Million Tons (c)	8 Million Tons
Int.-Matex Coal Term.-Magnolia Mile 47.9 AHP (West Bank) Int. Tank Term./Ingram Ind. Construction Suspended		12 Million Tons	15 Million Tons
NOLA Coal Loading Facility, Inc. Mile 47 AHP (East Bank) - B & M Coal Under Design - Constr. Delayed		6 Million Tons	12 Million Tons
Citrus Lands, Inc. - Feruzzi Mile 56 AHP (West Bank) Under Design - Constr. Delayed		6 Million Tons (c)	6 Million Tons
Gateway Terminals, Inc. - Peabody Mile 162 AHP (East Bank) Under Construction - Suspended		10 Million Tons	20 Million Tons
Miller Coal Systems, Inc. - Jack Warren Mile 174 AHP (East Bank) - & Alan King Prel. Des. Comp. - Constr. Delayed			9 Million Tons (d)
Granada Export Terminal - Hunt Mile 205 AHP (East Bank) Design Being Reviewed		15 Million Tons (c)	15 Million Tons
River and Gulf Transportation Co., Mile 213 AHP (East Bank) Note #4 - U. S. Steel Under Design - Constr. Delayed		12 Million Tons (c)	15 Million Tons
Burnside Terminal Mile 170.0 AHP (East Bank) Ormet Corporation Operator Existing Being Expanded		6.4 Million Tons (a)	8.5 Million Tons
	SUB TOTALS	102.4 Million Tons	162.5 Million Tons
Mid-Stream Capability		24 Million Tons (b)	24 Million Tons
	TOTALS	126.4 Million Tons	186.5 Million Tons

(a) by 1982, (b) by 1983, (c) by 1985, (d) by 1988

August 16, 1982

APPENDIX III

Virginia Port Authority

Agency of the Commonwealth of Virginia

THE COAL EXPORT BOOM: A HAMPTON ROADS PERSPECTIVE

OCTOBER 1981

INTRODUCTION

This paper has been prepared as a chronological history of the effect of the dramatic surge in demand for U.S. coal on the port of Hampton Roads, Virginia, the world's largest coal exporting complex. It highlights the intense efforts of the public and private sectors in simultaneously seeking to resolve problems in the current system of coal delivery planning to seize coal exporting opportunities in the future. Through these efforts, Hampton Roads is destined to remain not only this nation's, but the world's, dominant coal port.

THE EXPORT COAL BOOM/HAMPTON ROADS PERSPECTIVE

SUMMARY OF 1979

The average collier waiting time for the year was 3.1 days. For the month of December, 1979, the average number of vessels at anchorage in the queue was 11, with a peak on December 27 of 21. Coal shipments through Hampton Roads for the year totaled 34.1 million tons, 24.2 million tons through the Norfolk & Western's Lambert's Point facility and 9.9 million tons through the Chesapeake and Ohio's facility in Newport News. This represented approximately 73 percent of all U. S. coal exports.

1980

JANUARY On January 16, there were 20 colliers in the anchorages of Hampton Roads awaiting the loading of coal.

FEBRUARY On February 15, there were 28 colliers at anchorage.

MARCH On March 17, there were 22 colliers at anchorage.

Concern had arisen because of the lack of any noticeable improvement in waiting times. Various sources attributed the problem to:

- North Atlantic storms delaying scheduled ship arrivals.
- Extreme local weather conditions.

MARCH (cont'd)

- Closing of Chessie's Baltimore facility for maintenance.
- Limited capacity of railroad yards.
- Lack of coordination between shipper and vessel.
- Increased worldwide demand for steam coal.

21 The Norfolk District Corps of Engineers held a public hearing on the deepening of the existing 45-foot channels of Hampton Roads to 55 feet.

APRIL On April 15, there were 38 colliers at anchorage.

21 Governor John N. Dalton directed Secretary of Commerce and Resources Maurice Rowe and Secretary of Transportation George Walters to set up a task force to investigate the problem of collier congestion in Hampton Roads and submit their recommendations for a solution.

MAY On May 15, there were 36 colliers at anchorage.

15 The Hampton Roads Maritime Association appointed an Ad Hoc Committee on the Congestion of Coal Vessels to study the current congestion of colliers and the dredging of a 55 foot channel, and make recommendation concerning each. At its May 15 meeting, the Ad Hoc Committee voted to present the following recommendations to the Governor's Task Force at a meeting in Richmond on May 22:

- That N&W Pier 5 be further improved to handle ships of small tonnage and barge traffic, 30-35,000 tons.

MAY (cont'd).

- That N&W eliminate the practice of allowing loading of vessels at Pier 6 to 46½ feet, which necessitates that such vessels wait until two hours before high water to sail.
- That C&O study the feasibility of making one side of Pier 15 available for ships of small tonnage and barges. Southside of Pier 15 has not been used since January 1975 and has structural problems which prevent its immediate use. The Northside of the Pier, however, which was last used January 1976, could be activated in six to eight weeks.
- That C&O, too, eliminate the practice of loading vessels at Pier 14 to a draft of 46½ feet.

The Ad Hoc Committee also recommended that the following long-term overall improvements at coal loading facilities in Hampton Roads be studied:

- Resurection of ground storage proposals studied by both railroads in the mid-70's with the recommendation that N&W and C&O provide ground storage for steam coal.
- Encourage N&W and C&O to place more hopper cars into the system.

29 A meeting, coordinated by the Governor's Coal Task Force, was held at the Virginia Department of Labor and Industry's Division of Mines and Quarries in Big Stone Gap to discuss coal export problems from the viewpoint of coal producers. Representatives from 11 coal companies

MAY (cont'd) and various state agencies attended. Much of the discussion centered around the railroad's permitting system and the lack of coordination between coal producer, transshipper and vessel. Also discussed was the possibility of storing the coal in cars at an area not adjacent to the port, to relieve congestion, and, in the long term, the construction of ground storage facilities.

JUNE On June 17, there were 47 colliers at anchorage.

10 The HRMA's Ad Hoc Committee proposed that several further recommendations be made to the Governor's Task Force on June 11, including:

- That the present channel of 45 feet be deepened to 49 feet under original dredging act which authorized the channel to be maintained to 49 feet. It is the Committee's belief this would require no studies nor any capital funding except maintenance funds to cover the project.
- Inquire of N&W as to what plans, if any, they have for coal loading improvements, specifically:
    - (a) Pier 5.
    - (b) Pier 6, east/west extension.
    - (c) The dredging application for Piers 5 and 6.
    - (d) N&W interest on ground storage and obtaining additional marshalling yards for rail car storage.
    - (e) Proposed plans of N&W for erection of marginal type pier between LPD and Pier 5.

JUNE (cont'd)

- Request Chessie to consider feasibility cost study of reactivating southside of Pier 15.

JULY On July 16, there were 40 colliers at anchorage.

17 A small contingent from the Ad Hoc Committee went to the White House to meet with top Administration officials to expedite authorization and funding of the deepening of the Hampton Roads channel.

22 On July 22, Secretaries Rowe and Walters of the Governor's Cabinet presented to Governor Dalton their review of problems of coal export from Hampton Roads. They concluded:

- Lack of coordination between parties served as an impediment in the maximization of coal exports.
- Efforts should be made to increase the flow of coal through existing facilities to their full capacities.
- Because the demand for U. S. steam coal would continue to rise, Hampton Roads loading capability would have to be increased.
- The Virginia Port Authority should lead in the development of new facilities or expansion of existing ones.

23 On July 23, the A. T. Massey Coal Company of Richmond, Virginia, announced plans to convert Chessie Pier 9 and 60 acres adjacent to the Newport News waterfront into a coal exporting site. The ground storage has a planned throughput capacity of 9.5 million tons and an operational

JULY (cont'd) date of late 1982. (Designed throughput capacity was later increased to 12 million tons annually.)

24 Top-level coal, railroad, and port officials met with Governor John Dalton in an effort to expedite the flow of coal through Hampton Roads. The attendance of such high-level officials at the same meeting was deemed 'unprecedented.'

AUGUST On August 15, there were 46 colliers at anchorage.

14 The Army Corps of Engineers presented a report, prepared at the request of Senator John Warner and Governor John Dalton, that would deepen Hampton Roads ship channels to 50 feet by 1983 and to 55 feet by 1987, contingent upon Congressional approval.

18 VPA Chairman Glenn Sedam testified before the Senate Energy Committee concerning the overseas demand for American coal and current obstacles in its export.

26 Following a meeting with Governor Dalton and executives of six major coal companies, the Virginia Port Authority proposed to develop a coal 'superport' for steam coal on the Craney Island landfill.

The response to earlier Ad Hoc Committee recommendations, as of August, were:

- N&W dredging of the southside of Pier 5 to

AUGUST (cont'd) a restricted loading draft of 36 feet for smaller ships and barge traffic was completed on August 1.

- To ease congestion caused by vessels loading beyond 45 feet and necessitated a wait until high water, N&W dredged the southside of Pier 6 to 49 feet and implemented a revised system of regulations for vessels loading below 45 feet.
- C&O Pier 15 was reactivated the first week of August.

SEPTEMBER On September 17, there were 76 colliers at anchorage.

29 Governor John D. Rockerfeller, IV, and the West Virginia Coal Task Force toured the port of Hampton Roads on a fact-finding trip, stressing the importance of Hampton Roads to his state's coal export potential.

OCTOBER On October 16, there were 79 colliers at anchorage.

8 Cox Enterprises, A. T. Massey Coal Company and Pittston Company announced plans to build a steam coal terminal with an annual throughput capacity of 20 million tons on a portion of the proposed oil refinery site in Portsmouth.

21 The N&W Railroad filed suit in Portsmouth Circuit Court to reclaim the refinery site from Cox Enterprises, based on a 'non-speculation' clause in the original deed from N&W to Cox.

OCTOBER (cont'd) With the initiation of the N&W suit against Cox preventing the development of the site for a coal facility, the Virginia Port Authority, based on an Island Creek Coal feasibility study, proposed that Craney Island be investigated as a site for a coal depot. Chairman Sedam suggested that the State might issue revenue bonds backed by the financial strength of any participating coal companies. The facility would be similar in size and capacity to that proposed for the refinery site.

21 At its October Board Meeting, the Virginia Port Authority announced the formation of an Ad Hoc Committee. Commissioner James W. McGlothlin, president and chairman of the board of United Coal Company, was appointed Chairman of the Committee.

22 The Federal Interagency Coal Task Force visited Norfolk to gather evidence for recommendation to the Administration concerning harbor dredging priorities.

31 Assistant Secretary of Transportation William B. Johnston, in a press conference in Norfolk outlined the Administrations' plan to:

1. Expedite administratively the review process of the Army Corps of Engineers and other federal agencies for harbor improvements.
2. Introduce legislation to allow the President to authorize such projects and go directly to Congress.

NOVEMBER On November 17, there were 100 colliers at anchorage.

13 A joint legislative subcommittee, The Virginia Ports and Port Authority Study Commission, endorsed the concept of a state-owned coal export facility should private efforts fail to build expeditiously.

24 Governor John Dalton announced the appointment of a task force to study the problems of rail access to the proposed refinery site coal terminal in Portsmouth and suggest alternative routings.

25 The Norfolk & Western Railway proposed two types of contracts for the transportation of coal to port, providing an alternative to the much-malingered permit system. Two types of contracts were offered; a long term contract over at least two years if the shipper would guarantee a throughput of at least 800,000 tons per year, and a single vessel contract with a premium charge of $1 per ton. The contracts provided for guaranteed, timely availability of rail cars and berthing by the railroad and obliged the customer with fixing loading time limits and to have the vessel available for loading on the date he has scheduled.

29 A delegation from the Virginia Port Authority left for Europe to assure its buyers that Hampton Roads would be able to handle their increased coal needs.

DECEMBER On December 16, there were 112 colliers at anchorage.

5 Senator John Warner introduced legislation authorizing the immediate dredging of Hampton Roads, New Orleans and Mobile to a depth of 55 feet to accommodate larger coal colliers and streamline the process of federal authorization for deepening projects generally.

10 The Norfolk & Western Railway issued new regulations for its coal pier eliminating dual registration, which permitted ships to register at both N&W and Chessie piers at the same time. The N&W stated that dual registry had resulted in vast amounts of coal ready for loading clogged its pier's yards while its intended ship received its Chessie load first. (An estimated 60% of the colliers in Hampton Roads load blended cargoes and many prefer to load at Norfolk last, where greater channel depth permits additional coal to be loaded.)

16 The Virginia Port Authority voted to request the Governor's consideration in seeking funding necessary to condemn the Cox Refinery site currently tied up in litigation.

SUMMARY OF 1980

For the year of 1980, 48,628,966 million tons of coal were exported through Hampton Roads, an increase of 35% over the previous year. The Norfolk and Western piers dumped over 30 million tons of coal while nearly 18 million tons moved over the Chessie piers.

Three new coal export facilities were proposed:

- A. T. Massey announced that it would build a 9.5 million ton (later enlarged to 12 million tons) facility in Newport News.
- A partnership comprised of Cox Enterprises and Consolidation, Pittston, and A. T. Massey coal companies announced plans to build a 20 million ton facility in Portsmouth on part of the site of the proposed oil refinery.
- The Virginia Port Authority, concerned about possible delays in the development of additional facilities, suggested the possibility of building a state-owned pier of 20-30 million ton capacity at Craney Island.

1981

JANUARY	On January 16, there were 140 colliers at anchorage.
5	Congressman Paul Trible introduced legislation, co-sponsored by Virginia's 9 other Representatives, that would authorize the design and construction of a 55 foot channel for Hampton Roads.
8	Two colliers were diverted to Hampton Roads from Philadelphia because of Philadelphia's harbor ice.
19	The Administration's Coal Export Task Force released its long-awaited report, recommending

JANUARY (cont'd) the dredging of Hampton Roads, Mobile, Baltimore, and New Orleans to a depth of 50 feet, a depth not deep enough to handle the new generation 'super-colliers' expected to become dominant in the trade in the latter part of the century.

23 The HRMA Ad Hoc Committee on Coal agreed to send letters to officials of the N&W and Chessie railroads to recommend that vessels awaiting loading at the railroad's coal piers be allowed to berth at shipyards for repairs without losing their places in the queue.

FEBRUARY On February 17, there were 152 colliers at anchorage.

3 The Norfolk & Western Railway announced that it would end its restriction forbidding dual registration of coal ships at both railroads' piers.

9 Governor John Dalton proposed that the Commonwealth of Virginia condemn a portion of the Portsmouth refinery site currently undevelopable by private parties because of pending litigation, and thereon construct a coal export facility. The property is reportedly the prime site on the East Coast of the United States for such a terminal.

18 At the request of Governor John Dalton, two bills were introduced in the Virginia General Assembly to give the Virginia Port Authority power to condemn the site in Portsmouth.

MARCH On March 16, there were 119 colliers at anchorage.

11 Parsons, Brinckerhoff, Quade & Douglas proposed, as an alternative to a state-owned coal pier in Portsmouth, a 40-million ton facility on the Chicago Bridge and Iron Work site in Suffolk along the Nansemond River.

27 Railmark Corporation of New York proposed to convert Pier 2 at Newport News Marine Terminal into a coal pier with a 5 million ton annual capacity.

27 The United Mine Workers went on strike.

APRIL On April 17, there were 55 colliers at anchorage.

1 The Virginia Senate overwhelmingly passed bills that would allow the Virginia Port Authority to condemn land for and construct a coal export facility in southside Hampton Roads.

8 The Virginia House of Delegates, echoing the Senate's overwhelming show of support, passed the coal export facility bills.

10 Higgerson-Buchanan, a Tidewater, Virginia, construction company, announced plans to build a 25-acre export terminal on the Southern Branch of the Elizabeth River in Chesapeake. The facility is designed to provide ready access to the export market for the smaller or independent coal producers.

APRIL
(cont'd)

11 Governor John Dalton signed into law bills that provide the basis for the Virginia Port Authority to construct a 25 million ton per year export coal facility in Portsmouth.

15 The Chessie System, in an effort to minimize vessel demurrage charges instituted a new system of vessel registration. Under the revised system, vessels arriving in Hampton Roads register with the Chessie. After discussion, a projected loading date is assigned - the vessel is then free to leave the port. That vessel or a substitute vessel of the same size then must return to port in time for loading.

MAY On May 15, there were 48 colliers at anchorage.

15 Norfolk businessman David T. Levine, in a letter to President Reagan, proposed to purchase the Navy's 486-acre St. Juliens Creek Annex for development of a 10 million annual capacity coal pier that could be loading within six months and that could be expanded to a capacity of 16 million tons by 1986.

JUNE On June 16, there were 54 colliers at anchorage.

8 United Mine Workers ended their 2½ month long strike.

10 M. Shawver Associates, Inc., announced their plan to construct an $8 million coal terminal

JUNE (cont'd) at Pinners Point in Portsmouth for Spring, 1982, operation. The facility, with a capacity of 3-5 million tons annually, will be designed as an interim project, with a life span of five years.

A second company, Sands Marine Services, Inc., announced plans for a 17-acre coal loading facility, near Pinners Point, with an annual throughput capacity of 2-4 million tons.

12 Dominion Terminals Associates, comprised of Ashland, Armco, Utah International, and Westmoreland coal companies, announced its intention to build a 15-million ton capacity coal terminal in Newport News adjacent to the A.T. Massey ground storage facility under construction. The Dominion Terminal facility has a projected starting date of the first quarter of 1984.

17 Virginia Governor John N. Dalton, along with Virginia Congressmen Paul Trible, G. William Whitehurst, and Robert Daniel, and HRMA president Richard Counselman, all testified before the House subcommittee on Water Resources to stress the need for expeditious deepening of Hampton Roads, the world's dominant coal port.

18 Senator John Warner introduced legislation designed to provide for the faster deepening of this nation's harbors.

JUNE (cont'd)

19 Congressman Paul Trible introduced, with co-sponsorship of the Virginia Delegation, a bill identical to that introduced by Senator John Warner to expedite the dredging of this nation's channels.

JULY On July 16, there were 58 colliers at anchorage.

28 The Norfolk and Western Railway offered a new advance registration contract for the transportation of export coal, allowing paper registration for loading. Customers are notified 18 days in advance of an expected loading date and the ship need not enter the port until a few days before loading. The N&W guaranteed service contracts, requiring a commitment of 800,000 tons per year for two years, also remained in effect as an option to shippers.

AUGUST On August 17, there were 56 colliers at anchorage.

The Norfolk & Western Railway dumped 3.61 million tons of coal at its piers in Norfolk breaking an 11 year record.

SEPTEMBER On September 15, there were 57 colliers in anchorage.

18 The Accomack-Northhampton Transportation Districk Commission announced that it was negotiating to lease to an undisclosed Michigan coal company 35 acres of land in Virginia Beach for

SEPTEMBER (cont'd) the construction of barge loading facility. The barges would be used to top off colliers in the deeper waters of the Chesapeake Bay.

22 The conclusions of the long-awaited feasibility study of the Virginia Port Authority's proposed 27 million ton coal export facility in Hampton Roads were presented at the Authority's Board meeting. Consultants found that, based on several factors including projected world demand and construction costs, the project was economically feasible and the former refinery site in Portsmouth was the best location.

SUMMARY OF 1981

Coal loadings in Hampton Roads for 1981 through September were 34,091,463 million tons. The N&W had loaded 23,118,975 million tons through Piers 5 and 6 and Chessie had moved 10,972,488 million tons through its Piers 14 and 15.

Six new coal export facilities were proposed:

Virginia Port Authority (with possible participation by Pittston, Consolidation, A. T. Massey, Island Creek, United, Westmoreland and Inter-Mountain coal companies)- 27-30 million ton facility.

Parsons, Brinckerhoff, Quade & Douglas - 40 million ton facility in Suffolk.

Higgerson-Buchanon - 2-4 million ton facility in Chesapeake.

M. Shawver & Associates - 5 million ton facility in Portsmouth.

Sands Marine - 2-4 million ton facility in Portsmouth.

Dominion Terminal Associates (a consortium of Ashland, Armco, Utah International, and Westmoreland coal companies) - 15 million ton facility in Newport News.

SUMMARY TO-DATE

Perhaps there is no better indication of the strength of Virginia response than:

- 4 bills submitted by Virginia's Congressional delegation.
- 2 bills persented at the request of Governor John N. Dalton and enacted by the Virginia General Assembly.
- At least 7 new coal facilities planned for Hampton Roads.
- Drastically revised coal-loading regulations issued by the N&W and Chessie railroads to alleviate collier congestion and maximize the flow of coal through existing piers.

THE COAL BOOK

Freight Trains
America's Most Vital
Moving Force

Association of American Railroads
1920 L Street, N.W.
Washington, D.C. 20036

Transportation Division
Operations and Maintenance Department
May 1982

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WHAT IS COAL?

Coal is a black or brown rock that can be ignited and burned. As coal burns it produces energy in the form of heat. The heat from coal can be used to heat buildings and to make or process various products.

COAL AND THE RAILROADS - 1981

Coal

The new black gold . . . America's energy ace in the hole . . . the fuel of the future.

Not too long ago, any such statements about coal would have been summarily dismissed as nostalgia. The coal industry was seen as being stagnant, at best.

Until 1973.

That was the year when certain oil-producing nations embargoed exports of petroleum to the United States. The result was a serious energy shortage, leading to gasoline lines, escalating prices and higher inflation.

To some, none of this came as a surprise. Experts had been saying for some time that the world was faced with declining petroleum supplies that would ultimately lead to exactly the kinds of shortages brought about by the embargo of 1973.

One of the hardest hit countries was the United States.

As a voracious consumer of energy, the U.S. has been largely dependent upon oil. In recent years, that dependency has been complicated by the fact that U.S. oil production was insufficient to meet domestic needs. Thus, a significant portion of the oil consumed in the nation was from foreign wells -- placing the U.S. in a vulnerable posture.

The 1973 oil embargo spurred a renewed examination of alternative energy sources -- nuclear power, geothermal, solar, water . . . even wind. Above all, it brought about a new look at coal.

Coal exists in the United States in great abundance. Regions of the West -- hardly tapped until recently -- contain energy reserves in the form of coal which rival the oil reserves of Arab nations.

In 1977, former President Carter announced an energy program which called for a two-thirds increase annually by 1985 in national coal production. In addition, he called for conversion to coal by utilities and other large industries. He later proposed a 10-year, $10 billion program to both encourage domestic coal production and stimulate development of export coal markets.

Coal Production Gaining

Initially, coal production lagged behind the 1977 target figures. But then in 1979 events occurred that had the effect of accelerating the production of coal. A serious petroleum shortage developed, bringing about the return of the gas lines. Prices also jumped considerably.

At least partly because of these twin events, production of coal jumped to a record 824 million tons in 1980. The 824 tons includes all coal, including metallurgical.

While the National Coal Associaton in 1980 projected a likely coal production of just 972 million tons for 1985 -- about 130 million tons below the original target set in 1977 -- others predict higher production totals. In its 1979 Report to Congress (Volume 3), the Department of Energy projected domestic coal production of 1,130 million tons by 1985, 1,305-1,353 million tons by 1990 and 1,592-1,718 million tons in 1995.

Railroads Haul Most Coal Today

The railroad industry hauls more than 60 percent of all coal produced in this country today, with the rest being divided among barges, trucks and mine-mouth generation.

Highest coal loading during the period 1970 through April 1982 occurred during the week ended August 29, 1981 when 139,877 cars were loaded. Tonnage was estimated to be 12,588,930 tons, which was the highest ever recorded.

In order to insure the prompt return of open top hopper cars to their owners the AAR's Transportation Division has in effect Car Relocation Directive No. 98. This directive requires that open top hoppers owned by most of the major coal hauling railroads be withdrawn from distribution and returned empty to the owner.

U.S. Coal production and
distribution by modes
(Rail share includes all railroads)

Year	Total production (000)	% of total moved by rail	% of total moved by barge	% of total moved by truck/wagon	% used at mine mouth
1970	602 932	67.9	13.4	12.3	6.4
1971	552 192	69.2	10.7	10.9	9.2
1972	595 386	66.2	11.7	11.0	11.1
1973	591 738	67.1	11.6	9.7	11.6
1974	603 406	65.8	11.2	11.0	12.0
1975	648 438	64.5	10.7	12.2	12.6
1976	678 685	63.5	10.3	13.2	11.7
1977	691 344	58.9	9.5	17.7(b)	13.9
1978	665 127	60.5(a	8.9(a)	15.8(b)	14.8(a)
1979	776 299	60.0(a)	9.0(a)	15.7(b)	15.3(a)
1980	823 644	61.0(a	8.5(a)	15.2(b)	15.3(a)
1981	810 000(a)	NA	NA	NA	NA

Sources: (a) Department of Energy Estimate.

(b) Includes short-haul truck deliveries to rail loading facilities resulting in overstatement of truck share and understatement of rail share.

NA Not available.

Up until now, railroads have had no difficulty in keeping up with the growth in coal production. In fact, because coal production lagged behind projections until 1980, the railroad industry has gotten ahead of the game in expanding its open-top hopper car fleet to meet its share of forecasted increases.

For the 1977 target to be met, coal production would need to expand 5.8 percent a year beginning in 1981. That would increase rail traffic about 36 million tons per year, assuming railroads maintain their present share of coal production. Such increases in coal tonnage would produce -- in terms of total rail tonnage for all commodities -- an average annual increase of only 2.5 percent.

By comparison, rail coal traffic alone grew 24.5 percent between 1975 and 1980 and was handled without difficulty.

Historic data on coal carloadings, railroad equipment acquisitions, open top hopper ownership and capacity, and major U.S. consumers for the years 1970-1981 are provided on the following pages.

Year	Period	Carloadings	Avg. Cars Per Week	Avg. Tons Per Car	Total Tons Handled	Average Million Per Mo.	Tons Per Week
1970	1st Qt.	1,265,204	97,323	76.6	96,914,626	32.0	7.5
	2nd Qt.	1,307,777	100,598	76.6	100,175,718	33.1	7.7
	3rd Qt.	1,225,202	94,274	76.6	93,850,473	31.0	7.2
	4th Qt.	1,365,201	105,015	76.6	104,574,397	34.5	8.0
	TOTALS	5,163,384	99,296	76.6	395,515,214	32.7	7.6
1971	1st Qt.	1,265,613	97,355	77.8	98,464,691	32.5	7.6
	2nd Qt.	1,272,255	97,866	77.8	98,981,439	32.7	7.6
	3rd Qt.	1,189,506	91,500	77.8	92,543,567	30.5	7.1
	4th Qt.	775,800	59,677	77.8	60,357,240	19.9	4.6
	TOTALS	4,503,174	86,660	77.8	350,346,937	29.0	6.7
1972	1st Qt.	1,151,711	88,593	80.4	92,597,564	30.6	7.1
	2nd Qt.	1,183,070	91,005	80.4	95,118,828	31.4	7.3
	3rd Qt.	1,114,465	85,728	80.4	89,602,986	29.6	6.9
	4th Qt.	1,108,238	85,249	80.4	89,102,335	29.4	6.9
	TOTALS	4,557,484	87,644	80.4	366,421,713	30.3	7.0
1973	1st Qt.	1,088,451	83,727	81.5	88,708,757	29.3	6.8
	2nd Qt.	1,128,044	86,773	81.5	91,935,586	30.3	7.1
	3rd Qt.	1,125,131	86,549	81.5	91,698,177	30.3	7.1
	4th Qt.	1,145,260	88,097	81.5	93,338,690	30.8	7.2
	TOTALS	4,486,886	86,286	81.5	365,681,200	30.7	7.0
1974	1st Qt.	1,161,571	89,352	83.5	96,991,179	32.0	7.5
	2nd Qt.	1,210,433	93,110	83.5	101,071,156	33.4	7.8
	3rd Qt.	1,157,347	89,027	83.5	96,638,474	30.7	7.2
	4th Qt.	1,014,313	78,024	83.5	84,695,136	28.0	6.[illegible]
	TOTALS	4,543,664	87,378	83.5	379,395,944	31.4	7.3
1975	1st Qt.	1,166,884	89,760	84.3	98,368,321	32.5	7.4
	2nd Qt.	1,248,470	96,036	84.3	105,246,021	34.7	8.1
	3rd Qt.	1,064,144	81,857	84.3	89,707,339	29.6	6.9
	4th Qt.	1,213,727	93,364	84.3	102,317,186	33.8	7.9
	TOTALS	4,693,225	90,254	84.3	395,638,867	32.7	7.6
1976	1st Qt.	1,135,728	87,364	85.5	97,104,744	32.0	7.5
	2nd Qt.	1,239,381	95,337	85.5	105,967,076	35.0	8.2
	3rd Qt.	1,118,080	86,006	85.5	95,595,840	31.5	7.4
	4th Qt.	1,215,450	93,496	85.5	103,920,975	34.2	8.0
	TOTALS	4,708,639	90,551	85.5	402,588,635	33.3	7.7
1977	1st Qt.	1,064,578	81,891	86.3	91,873,081	30.3	7.1
	2nd Qt.	1,305,368	100,413	86.3	112,653,258	37.1	8.7
	3rd Qt.	1,208,294	92,946	86.3	104,275,772	34.4	8.0
	4th Qt.	1,146,698	88,208	86.3	98,960,037	32.7	7.6
	TOTALS	4,724,938	90,864	86.3	407,762,148	33.7	7.8
1978	1st Qt.	536,431	41,264	87.6	46,991,356	15.7	3.6
	2nd Qt.	1,374,524	105,733	87.6	120,408,302	40.1	9.3
	3rd Qt.	1,141,628	87,818	87.6	100,006,613	33.3	7.7
	4th Qt.	1,375,139	105,780	87.6	120,462,176	40.2	9.3
	TOTALS	4,427,722	85,149	87.6	387,868,447	32.3	7.5
1979	1st Qt.	1,120,126	86,164	88.9	99,579,201	33.2	7.7
	2nd Qt.	1,400,807	107,754	88.9	124,531,742	41.5	9.6
	3rd Qt.	1,323,760	101,828	88.9	117,682,264	39.2	9.1
	4th Qt.	1,409,644	108,434	88.9	125,317,352	41.8	9.6
	TOTALS	5,254,337	101,045	88.9	467,110,559	38.9	9.0
1980	1st Qt.	1,339,357	103,027	90.0	120,541,130	40.2	9.3
	2nd Qt.	1,503,789	115,676	90.0	135,341,010	45.1	10.4
	3rd Qt.	1,391,287	107,022	90.0	125,215,830	41.7	9.6
	4th Qt.	1,472,001	113,231	90.0	132,480,090	44.2	10.2
	TOTALS	5,706,434	109,739	90.0	513,579,060	42.3	9.9
1981	1st Qt.	1,523,724	117,210	91.0	138,658,884	46.2	10.7
	2nd Qt.	957,438	@ 73,649	91.0	87,126,858	29.0	6.7
	3rd Qt.	1,638,824	126,063	91.0	149,132,984	49.7	11.5
	4th Qt.	1,643,179	126,398	91.0	149,529,289	49.8	11.5
	TOTALS	5,763,165	110,830	91.0	524,448,015	43.7	10.1

@ UMW strike March 27-June 8.

New and rebuilt open top hoppers
ordered/delivered/
on order as of 12/31 --
all owners (1)

Year	Ordered	Delivered	On order as of 12/31
1970	13 965	14 931	9 704
1971	13 010	17 543	4 742
1972	5 957	7 686	2 782
1973	13 354	3 157	10 621
1974	28 123	7 901	28 283
1975	14 155	22 348	19 649
1976	8 313	18 680	7 246
1977	16 376	12 319	11 729
1978	16 406	15 205	11 842
1979	11 723	13 759	9 386
1980	8 956	11 154	7 023
1981	3,142	6,766	2,796

(1) AAR Transportation Division and American Railway Car Institute.

Open top hopper ownership and capacity - all owners

Year	Total cars in open top hopper fleet 12/31 (1)	Total hopper fleet capacity (000) (2)	Average capacity per car 12/31 (3)	Average coal load per car [a] (3)
1970	399 498	28 884	72.3	76.6
1971	396 888	29 608	74.6	77.8
1972	383 242	28 329	75.9	80.4
1973	365 333	28 058	76.7	81.5
1974	356 626	27 496	77.1	83.5
1975	363 186	28 873	79.5	84.3
1976	365 526	29 388	80.4	85.5
1977	359 168	29 488	82.1	86.3
1978	354 086	29 708	83.9	87.6
1979	356 504	30 338	85.1	88.9
1980	347 867	30 264	87.0	90.2
1981	339 435	29 599	87.2	NA

Sources: (1) AAR Transportation Division.

(2) AAR Economics and Finance Department.

(3) ICC Freight Commodity Statistics.

a Average coal load exceeds average car capacity because largest cars are used in coal service.

NA Not available.

Major consumers/total U.S. consumption/exports - Tons (1)

Year	Electric Utilities (000)	Steel Industry (000)	Other mfg. mining ind. (000)	Total U.S. consumption (000)	Exports (000)
1970	318 921	96 009	83 207	515 619	70 944
1971	326 280	82 809	68 862	494 862	56 632
1972	348 612	87 272	67 294	519 776	55 997
1973	386 879	93 634	60 953	556 022	52 870
1974	390 068	89 747	57 889	552 709	59 926
1975	403 249	83 272	59 783	556 301	65 669
1976	447 011	84 324	57 762	598 750	59 406
1977	475 701	77 369	60 398	620 487	53 687
1978	490 171	71 078	62 167	621 330	39 825
1979	526 005	77 009	67 141	677 286	64 783
1980	568 300	66 360 a	61 540 a	700 100 a	89 800 a
1981	596 200 a	NA	NA	NA	110 000 a

Sources: (1) U.S. Bureau of Mines, National Coal Association and Department of Energy.

a Department of Energy estimate.

NA Not available.

Rails Can Keep Pace

As the principal haulers of coal today, railroads expect to benefit substantially from the increased coal production which has been projected.

Some questions have been raised, however, about the railroads' ability to continue to keep pace -- in terms of carrying capacity -- with the increasing requirements for coal transportaton.

These doubts have been voiced primarily by those with an interest in doing so -- such as proponents of coal slurry pipeline construction, who want to establish a case for public need of coal pipelines in order to justify the passage of special-interest legislation to facilitate the construction of pipelines to serve a few volume users.

Predictably, studies published by those who favor pipeline construction have begun with the premise that anticipated coal production may be beyond the ability of the railroads to handle.

Conversely, independent studies have upheld the railroads' contention that they can easily develop the needed coal-carrying capacity, without any unmanageable problems.

An information circular entitled "Long-Distance Coal Transport: Unit Trains or Slurry Pipelines," released by the U.S. Bureau of Mines in 1975, concluded that: "The capacity of the railroads to cope with substantially more Western coal does not seem to be an unduly serious matter."

A 1976 study by the Hudson Institute[1] agreed, stating: "We feel railroads should be able to haul initial requirements with little effort and given investment in cars and motive power, should be able to increase haulage as fast as the mines can increase production."

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[1] "Research Analysis of Factors Affecting Transportation of Coal by Rail and Slury Pipelines."

A report[2] prepared in April 1976 for the Department of Transportation and entitled "Rail Transportation Requirements for Coal Movement in 1980," involved a survey of a number of major railroads in each of the three regions in the United States.

The report predicted that increased coal traffic would help rather than hinder the movement of other commodities, noting that "the majority of the railroads are planning for projected total traffic, including anticipated increases in other commodities, on their system. All of them indicated that they would be able to absorb the anticipated coal traffic without any adverse effect on movement of other commodities."

The report also stated that "The anticipated coal traffic increases, even though affecting individual railroads unevenly, would not place unmanageable strain on rail capacity."

In early 1978, the Office of Technology Assessment (OTA), at the instruction of the Congress, conducted a study of all the issues surrounding the coal slurry pipeline controversy.[3]

On the question of capacity to move coal, the OTA said: "The capacity of rail systems can be expanded faster than can coal mining or electric power generation using coal, provided the necessary investments in local rail facilities are made."

Also, "The choice between transportation modes will not be determined by their respective capacity limitations."

The Department of Transportation -- also in early 1978 -- released a report[4] by its Coal Transportation Task For which echoed this finding. Estimating that the demand for rail transportation of coal will require an investment of over $10 billion, the report said: "While some problems may exist, we believe that this investment can be made."

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[2] Prepared by Input Output Computer Service, Inc.

[3] "A Technology Assessment on Coal Slurry Pipelines."

[4] U.S. Department of Transportation, "Transporting the Nation's Coal -- A Preliminary Assessment," 1978.

Also: "In many instances . . . the rail coal hauling capacity already exists and the expected new traffic will allow the railroads to make better and more efficient use of their heavy past investments."

And: "(it) appears that both the healthy and marginal railroads are finding bright prospects in investments in coal hauling facilities."

It is also generally agreed among railroad financial experts that railroads will have no trouble financing equipment requirements through the sale of rail equipment trust certificates and the lease of equipment from financial intermediaries. Both types of financing have traditionally enjoyed favor with investors.

Proof by Experience

In the five weeks before the start of the 1981 coal miners' strike, railroads showed their ability to handle large increases in coal traffic. As users built up inventories, coal loadings averaged 129,000 cars a week -- or about 11.6 million tons. That translates out to an annual volume of more than 600 million tons -- about 86 million tons more than railroads actually carried in 1980. Nor were railroads overly strained in meeting these demands, since railroads had surplus coal cars available, even during the peak demand weeks. This indicates clearly that the railroads' present annual coal-hauling capacity tops 600 million tons, even without taking into account the equipment additions or improvements in car utilization that are occurring every day.

Railroad and the carbuilding industry are responding to the increase in demands of the coal industry. A few facts point out how effective this response has been:

11,154 new and rebuilt open top hopper cars were installed in 1980, despite the recession. In the past four years, deliveries of open-top hoppers have totaled 46,884, most of which were destined for coal service. (See Page 6)

At the start of 1982, there was a backlog of nearly 3,000 open-top hopper cars -- the predominant type used to haul coal -- on order and undelivered to railroads.

Total capacity of the hopper fleet has increased by 10 percent since 1974 -- due primarily to the fact that the new cars now being installed have an average capacity of about 100 tons compared with an average of 67 tons for those retired.

To augment their ability to move coal, the railroads are now getting more work out of each car. Utilization gains in coal transportation have come mainly through the expanded use of unit trains, which now handle more than 50 percent of all coal hauled by railroads, compared with 41 percent in 1975, and only 29 percent ten years ago.

It is anticipated that installation of new coal cars will continue at a brisk pace as coal production accelerates.[5]

Unit Trains and Car Utilization

It is expected that the use of unit trains in coal operations will continue to increase.

The unit train is a train wholly dedicated to moving a single commodity between fixed points on a continuous basis, like a conveyor belt.

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[5] Major manufacturers of coal cars, in addition to railroads themselves, include: ACF Industries, Bethlehem Steel, Evans Products, FMC Corp., Greenville Steel Car Corp., Pacific Car and Foundry, Ortner Freight Car Co., Pullman Standard, and Thrall Car Manufacturing Co.

It was originally developed to enable railroads to reduce their transportation costs. Today, these low trainload rates are competitive with coal slurry pipelines, mine-mouth generating plants and low-cost nuclear energy.

Since its introduction some 20 years ago, the unit train has become clearly established as the most efficient and economical means of handling the delivery of coal to power or other large industrial users. The unit train is also the most efficient form of transportation, in terms of BTUs, and this includes barges and slurry pipelines.

Since the unit train provides advantages both to the railroad and the customer the emphasis in expansion of railroad coal-hauling capacity is certain to be on unit train service, particularly since the users of added coal production will be primarily utilities and other large coal consumers.

Between 1970-80, when total coal tonnage moved via rail increased by 26 percent, there was an estimated 134 percent increase in coal tonnage moved by unit trains. Moreover, the growth rate of unit train operations is continuing to accelerate. Tons originated and tons moved in unit trains during this period are shown on the following page.

Coal tons originated - unit train movement - all railroads

Year	Coal tons originated (000) (1)	Tons moved in unit trains (000) (2)	% of total coal tons in unit trains (2)
1970	425 920	123 289	29.0
1971	380 309	122 832	32.2
1972	399 525	138 635	34.7
1973	400 327	156 528	39.1
1974	415 632	161 681	38.9
1975	429 880	177 540	41.0
1976	430 007	177 593	41.3
1977	437 245	196 800	45.0
1978	405 000	202 500	50.0
1979	500 000	260 000	52.0
1980	548 000	296 000	54.0
1981	560 000 a	NA	NA

Sources: (1) ICC Freight Commodity Statistics.

(2) U.S. Bureau of Mines, National Coal Association and Department of Energy.

a AAR Estimate.

NA Not available.

Future Equipment Needs

Rail equipment requirements for coal depend principally on the extent of unit train operations. Other factors would be the individual needs of utilities, other domestic users and foreign buyers, the rate of improvements in equipment utilization, the distance of coal movements and out-of-service time.

The Association of American Railroads has developed two scenarios in which needs for cars and locomotives to move coal have been estimated. One assumes a high frequency of unit trains -- and would require the addition of fewer cars and locomotives because of the high degree of utilization achieved in such service. The other assumes a level of unit train frequency no higher than exists at present. Obviously, the second would require more equipment. (Both scenarios are shown in Attachment A.)

In either case, the railroads will need new coal cars and locomotives to replace units as they wear out just to handle current levels of coal traffic. It is estimated that 4,400 replacement coal cars would be needed each year at a cost of $172 million. Replacement needs for locomotives would be 220 each year at a cost of $152 million.[6]

Because it is likely that coal traffic increases will stem primarily from utility consumption of coal, it thus is also likely that the scenario involving a high frequency of unit trains is significantly more probable than the other.

However, even the higher figure (14,700 cars per year) is well within the financial capacity of the railroad industry.

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[6] In 1982 dollars, an open top hopper costs over $40,000. A locomotive used in coal service costs approximately $1,000,000.

And the higher figure is well below the physical capacity of the car builders, which can produce several times as many coal cars without expanding capacity.[7]

In the last five years, open top hopper orders have totaled 56,603 -- an average over 11,300 a year. (It should be noted that until 1980 coal production during this period did not increase as fast as had been expected.)

Deliveries of new and rebuilt hoppers in the same five-year period totaled 59,203 -- averaging more than 11,800 cars a year.

Installations of new and rebuilt locomotives totaled 750 in 1981.

Over the last five years, Class I railroads alone have spent more than $9.5 billion for rail equipment.[8]

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[7] The Railway Progress Institute, the national association of the railway industry, performed a survey in 1975 of the capacity of that industry to produce coal cars and locomotive power. It was learned that major car builders would be able to produce as many as 72,000 coal cars per year -- and that additional capacity exists in railroad car building shops. Capacity to produce locomotives was also found to be more than adequate.

[8] In addition, billions have been expended by leasing companies and private companies, including railroad subsidiaries classed as private car lines.

Attachment A

ESTIMATED RAIL EQUIPMENT REQUIREMENTS TO MEET COAL DEMAND

1981 - 1985

-- HIGH UNIT TRAIN FREQUENCY --

(Dollars in millions)

Item	Locos. per yr.	Cars per yr.	Annual invest.	Five-Year investment
Replacement cars to maintain current coal traffic	--	4,400	172	860
Replacement locomotives to maintain current coal traffic	220	--	152	760
Cars required for additional coal traffic	--	5,760	225	1,125
Locomotives required for additional coal traffic	288	--	199	995
Total	508	10,160	$748	$3,740

-- LOW UNIT TRAIN FREQUENCY --

(Dollars in millions)

Item	Locos. per yr.	Cars invest.	Annual invest.	Seven-year investment
Replacement cars to maintain current coal traffic	--	4,400	172	860
Replacement locomotives to maintain current coal traffic	220	--	152	760
Cars required for additional coal traffic	--	10,300	402	2,010
Locomotives required for additional coal traffic	515	--	355	1,775
Total	735	14,700	$1,081	$5,405

NOTE: Columns 3 and 4 based on Estimated 1980 cost levels.

Railroad Coal Rates

During the last few years, a new charge has been raised with regard to railroad coal hauling. It is that railroad coal rates are so high as to inhibit conversion to coal, or to encourage use of foreign coal in preference to domestic.

Unsurprisingly, these charges have been picked up and trumpeted by the backers of coal slurry pipeline - who argue that pipelines, somehow, would provide "competitive discipline" to hold down rail rates.

The fact that slurry pipelines would operate only under long-term contracts signed prior to construction -- and thus would remove traffic from the competitive arena -- makes this argument as baseless as the other contentions of slurry promoters.

In addition, the railroads reject the charge that their rates inhibit conversion to coal -- or use of domestic coal. Coal prices both in production costs and delivery must be compared with competitive fuels. Coal has remained steady.

Nationally, the rail transportation component amounts to 27 percent of the delivered price of coal. Ten years ago, it was 35 percent, and in 1969, it was nearly 40 percent. It is thus obvious that, although rail rates have risen, coal prices have risen faster. It is also obvious that, nationally, the rail rate has a lesser impact upon the delivered price of coal than does the mine-mouth price, which has more than quintupled since 1969.

In the West, where rail coal hauls are substantially longer than the national average, the rail rate may, in some cases, result in a larger transportation component in the delivered price than is the case elsewhere. However, the per-ton-mile revenue for coal in the West is actually substantially lower than the national average of about 2.5 cents per ton-mile.

Beyond questioning the level of railroad rates, some critics have accused railroads of using coal rates to subsidize other, more competitive traffic. This charge is baseless.

Like other industries, railroads engage in differential pricing. That is, they mark up different rates of different levels above variable costs. Highly competitive traffic is usually (although not always) carried at a lower mark-up than less competitive traffic. This is not cross subsidization, however. Indeed, all shippers benefit from this practice.

The reason why all benefit is that the railroad industry has a high proportion of fixed costs -- costs that must be paid whether business is good or bad. Thus, the more traffic railroads can get, the more these costs can be spread out so that each unit of trafic will pay less. If railroads were to lose the highly competitive traffic that has the lower mark-up, remaining shippers would have to bear all of the industry's fixed costs -- and that would cause railroad coal rates to increase substantially.

What Coal Traffic Means to the Railroads

Coal is the No. 1 commodity carried by the railroads. In 1980, it represented the following for the nation's major railroads:

35 percent of rail tonnage originated in Class I railroads -- 522 mill on net tons.[9]

25 percent of total carloadings -- 5.7 million coal loadings.

18 percent of gross freight revenues -- $5.0 billion.

Historically, coal traffic and revenues are not spread evenly throughout the railroad industry. As a matter of fact, six railroad systems in 1980 accounted for:

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[9] Coal tons originated showed on Page 14 include estimated tonnage of Class II and III railroads.

73.3 percent of total railroad coal revenues.

80.9 percent of total railroad coal carloadings originated.

79.9 percent of total coal tonnage originated.

The total operations of these rail systems account for 50.5 percent of the industry's gross revenues, and these figures reflect the significance of coal traffic to each:

Norfolk and Western -- 71.2 percent of its originated tonnage and 50.2 percent of its revenues.

Chessie System (B&O/C&O/Western Maryland) -- 67.7 percent of its total originated tonnage and 44.9 percent of its total revenues.

Burlington Northern -- 54.6 percent of originated tonnage and 27.7 percent of revenues.

Southern Railway System -- 35 percent of tonnage and 16.1 percent of revenues.

Family Lines System (SCL/L&N/Clinchfield) -- 33.2 percent of originated tonnage and 17.4 percent of revenues.

ConRail -- 32.1 percent of originated tonnage and 16 percent of revenues.

Chessie's coal revenues represent 17.3 percent of the industry total from this commodity. Burlington Northern's revenues represent 16.6 percent; N&W's, 15.6 percent; Family Lines', 8.4 percent; Conrail's, 10.3 percent: and Southern Railway's, 5.2 percent.

Projected increases in coal production in the West will mean that coal traffic will take on a new importance for a number of railroads which have not in the past been considered major coal-carrying roads.

The Burlington Northern's coal traffic in 1979 increased by 27.9 percent over 1978, and increased another 24.6 percent in 1980 when the BN moved a record 100.3 million tons.

Other western railroads expecting to haul significantly more coal in the future are the Union Pacific, the Chicago and North Western, the Atchison, Topeka and Santa Fe, the Missouri Pacific and the Denver and Rio Grande Western.

Some Individual Railroad Plans

All of the principal coal-hauling railroads are investing heavily in new equipment to handle the anticipated increases in coal traffic.

In the East, for example, the Chessie System -- one of the largest of the coal-hauling systems -- has undertaken extensive programs involving installation of a substantial number of coal cars and locomotives along with renovation of coal-related track and facilities.

ConRail, which would also expect a major share of eastern coal traffic, and which inherited many of the serious track problems in the industry from its bankrupt predecessors, has begun an extensive rehabilitation program which could cost up to $6 billion.

In the West, the Burlington Northern spent $270 million on coal related facilities in 1980 alone and expects its total program to exceed $1 billion by 1983.[10]

The Missouri Pacific has also embarked on a substantial program of buying coal cars and upgrading lines.

Union Pacific and the Chicago and North Western are working on a program that could produce an additional 25 million tons of coal business by 1985.

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[10] Michael M. Donahue, then Vice President-Coal and Taconite, BN, has commented that "coal represents one of the most significant opportunities to face the railroad industry since its creation," Railway Age, February 25, 1980.

In addition to purchases by the railroads, electric utilities and coal producers also are buying an increasing number of coal cars. This arrangement offers the advantage of lower capital outlays for the railroads, better control over equipment for the private owners, plus lower costs through full utilization of tax advantages.

Export Coal

The rising price of oil and its political jeopardy have caused rapid conversion of electric utilities in Europe and Asia. This has led to a healthy growth market for export coal.

The Department of Energy reported that 1980 U.S. coal exports totaled about 90 million tons, an increase of 39 percent over 1979 (see page 8). For 1981 they have estimated that exports approximated 110 million tons. Exports of 255 million tons by the year 2000 appear realistic.[11]

As the primary movers of coal, the railroads have a significant stake in the future of coal exports and are cooperating with coal companies, port authorities and assorted entrepreneurs to improve U.S. coal port capacity around the country.

These actions, along with the Staggers Act of 1980 that firmly legalizes long-term contracts by railroads, should serve to stimulate even more the export coal market.

A summary of dedicated coal loading terminals, multi-purpose terminals and planned facilities is shown following:

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[11] "Coal Export and Port Development" Office of Technology Assessment, U.S. Congress - April, 1981, p. 6.

(1) (2) PORT/TERMINAL	(3) OWNER/OPERATOR	CAPACITY (In millions of short tons)	(4) (5) 1981 COAL EXPORTS (In Millions short tons)	(6) (7) CAPACITY UTILIZATION (4) ÷ (3)	(8) BERTHS	(9) STORAGE (Port)	(10) CHANNEL DEPTHS	EXPANSION PLANS	EXPANSION CONSTRAINTS
DEDICATED COAL LOADING TERMINALS									
PHILADELPHIA									
Pier 124	ConRail	4.0	3.3	83%	2	800 railcars; 0 ground	40'	Construction well underway to increase capacity to 10 million tons To be completed end of 1982	Lack of dredge disposal sites, area wetlands, and channel deepening would require ledge excavation
BALTIMORE									
Curtis Bay and Port Covington (combined)	Chessie	14.0-17.0	16.6[1]	97%	2	2400 railcars; 0 ground	42'	No major physical expansions are planned by Chessie	Lack of dredge disposal sites
NORFOLK									
Pier 5	NW	4.0	2.3	N/A	1	7,000 railcars 0 ground	45'	No major physical expansions are planned by NW	Lack of dredge disposal sites, and lack of suitable sites for terminal construction
Pier 6	NW	30.0-35.0	31.3	N/A	2		45'		
		34.0-39.0	33.6	94%	3				
NEWPORT NEWS									
Pier 14	Chessie	16.0	-	-	2	8,000 railcars; 0 ground	45'	No major physical expansions are planned by Chessie	Lack of dredge disposal sites, and lack of suitable sites for terminal construction
Pier 15	Chessie	5.0	-	-	1				
		21.0	15.6	74%	3				

[1] 1.28 million tons in 1981 were domestic loadings

(1) PORT/TERMINAL	(2) OWNER/OPERATOR	(3) CAPACITY	(4) 1981 COAL EXPORTS	(5) CAPACITY UTILIZATION	(6) BERTHS	(7) STORAGE	(8) CHANNEL DEPTHS	(9) EXPANSION PLANS	(10) EXPANSION CONSTRAINTS
		(In millions of short tons)	(In Millions of short tons)	(4) ÷ (3)		(Port)			
MOBILE									
McDuffie Island	Alabama State Dock Department	8-10	5.6	70%	1	165 railcars; 100 barges 500,000 tons ground storage	40'	Construction is currently underway to expand capacity to 15 million tons by 1983	Lack of dredge disposal sites
NEW ORLEANS									
Myrtle Grove	International Marine Terminal, Associated Energy Transportation	3.5	3.5	100%	1	0 rail; 250 barges, 200,000 tons ground	40'	Capacity expansion is well underway. 15 million tons by late 1982	Channel dredging to facilitate greater coal exports are constrained by concerns regarding salt water intrusion into the Mississippi River
Davant	Electro Coal Company	-	-	-	1	0 rail; 200 barges; 1 million tons ground	40'	Construction well underway. Will have capacity of 24 mt/y by early 1983	
Total:	New Orleans	10.0	3.8	38%	2	450 barges; 1.2 million tons ground			

(1) PORT/TERMINAL	(2) OWNER/OPERATOR	(3) 1981 CAPACITY	(4) 1981 COAL EXPORTS	(5) CAPACITY UTILIZATION	(6) BERTHS	(7) STORAGE	(8) CHANNEL DEPTHS	(9) EXPANSION PLANS	(10) EXPANSION CONSTRAINTS
(II) MULTI-PURPOSE TERMINALS		(In Millions of short tons)	(In Millions of short tons)	(4) ÷ (3)		(Port)			
BATON ROUGE Burnside	Orment Corp.	2.0-3.0	0.75	38%	1	Minimal barge and ground storage exist	40'	No plans	-
LOS ANGELES	Port of Los Angeles; American Bulk Loading Enterprises, Inc.	5.0	3.0	60%	2	100 railcars; 0 ground	45'	In addition to efficiency improvements on the existing MP terminal the Port is seeking an investor for a 196-acre site	Strict state regulations concerning shoreline construction
LONG BEACH	Metropolitan Stevedore Co.	2.0-3.0	2.0	66%	1	Minimal storage exists at this port	45'	By the end of 1982, the Port of Long Beach plans to expand its existing multi-purpose terminal so that it will be capable of handling 5 million tons. In addition, the Port and Upland Industries Corp. are planning a major facility on Upland land. To date, $4 million have been invested. It is believed this facility is still feasible. A report on feasibility is due in late 1982	Strict state regulations concerning shoreline construction

PORT/TERMINAL	SPONSORS	CAPACITY	CONSTRUCTION COSTS (Mil. $)	COMPLETION DATE	STORAGE	COMMENTS
(III) PLANNED FACILITIES						
NEW YORK, NY						Site on Staten Island in Stapleton being considered for a coal loading facility by Orba.
CAMDEN, NJ	Alla-Ohio Coal Co. Currently going through bankruptcy	-	-	-	---	Nothing planned at this time.
WILMINGTON, DE	Potts Coal		-			Has dropped out; Port authority is still trying to attract someone to build a facility.
BALTIMORE, MD	Island Creek Coal Co.	12.0-15.0	60.0	1983	300,000 tons ground	Plans for this terminal are well advanced.
BALTIMORE, MD	Consolidation Coal Co.	10.0	110.0	-	Some ground storage is planned	Plans for this terminal are well advanced.
BALTIMORE, MD	Soros Associates	15.0	150.0	-	---	Most financial backers have withdrawn. Pittston Co. attempting to acquire substitute backers.
NEWPORT NEWS, VA	Massey Coal Terminal Co.	10.0	50.0	1984	---	Massey is well advanced in their plans for converting pier 9 to a dedicated coal export facility.
PORTSMOUTH, VA	Virginia Port Authority	30.0	200.0	-	---	Pittston Co., Consolidation Coal Co., Island Creek Coal Co., and VPA still planning to build.
PHILADELPHIA	Cibro Petroleum					Were planning a 5 mt/y facility; but have suspended those plans.

PORT/TERMINAL	SPONSORS	CAPACITY	CONSTRUCTION COSTS (Mil. $)	COMPLETION DATE	STORAGE	COMMENTS
MOOREHEAD CITY, NC	N.C. Port Authority Alla-Ohio Valley Coal Co.	3.0	-	Completed	---	Alla-Ohio is going through bankruptcy. This terminal is presently shut down.
CHARLESTON, SC	Massey Coal Co.	3.0-4.0				Massey is currently exporting small quantities of coal out of the old Burris Chemical terminal.
SAVANNAH, GA	Savannah Coal Co.	10-15	50-80	Undecided	1 million tons of ground storage	Amoco Minerals Co. and Elk River Resources Inc. started construction - is 20% complete - Amoco has pulled out and construction has stopped - project is "suspended" but not "dead."
GALVESTON, TX	Port of Galveston		-	-		Still working on plans for a facility nothing definite at this time.
CORPUS CHRISTI, TX	Republic Carbon Products Co.	-	-	-	---	Currently shipping small quantities of coal through an existing multi-purpose facility.
PORT ARTHUR, TX	Port of Port Arthur	-			---	The existing terminal is currently being utilized for coal by Kansas City Southern Lines. Future throughput is expected to increase.

PORT/TERMINAL	SPONSORS	CAPACITY	CONSTRUCTION COSTS (Mil. $)	COMPLETION DATE	STORAGE	COMMENTS
BATON ROUGE-NEW ORLEANS, LA	Public Bulk Terminal	4	-	-	---	Is operational now.
Western Ports						
KALAMA, WA	Port of Kalama Pacific Resources Inc.	10-15	-	-	---	Construction could start in 1982 - nothing definite as yet.
PORTLAND, OR	Pacific Coal Corp.	5-10	-	1983	---	Construction has just recently started.
STOCKTON, CA	Delta Terminal					A limited amount of coal is being loaded out of this multiple purpose terminal.
PORT HUENEME, CA						No comments.
SACRAMENTO, CA						Feasibility studies underway.
ASTORIA, OR						Port is actively looking for funding for a coal loading facility.
GRAYS HARBOR, WA						Feasibility studies underway.
BELLINGHAM, WA						Studies underway.
DUPONT, WA						No comments.
VANCOUVER, WA						The Port and Westmoreland Resources are considering a small coal facility.
TULALIP, WA						Feasibility study underway.

** A dash is shown if data was not available.

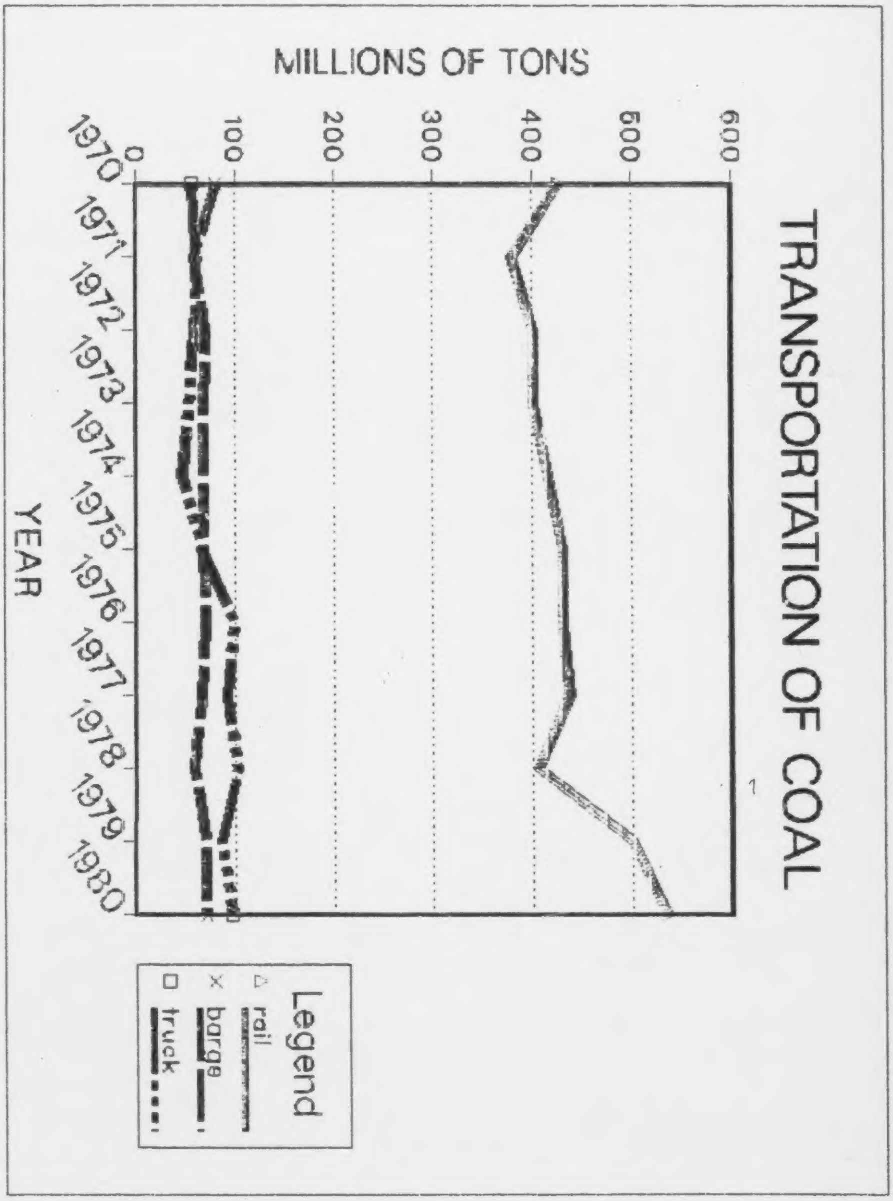
Summary

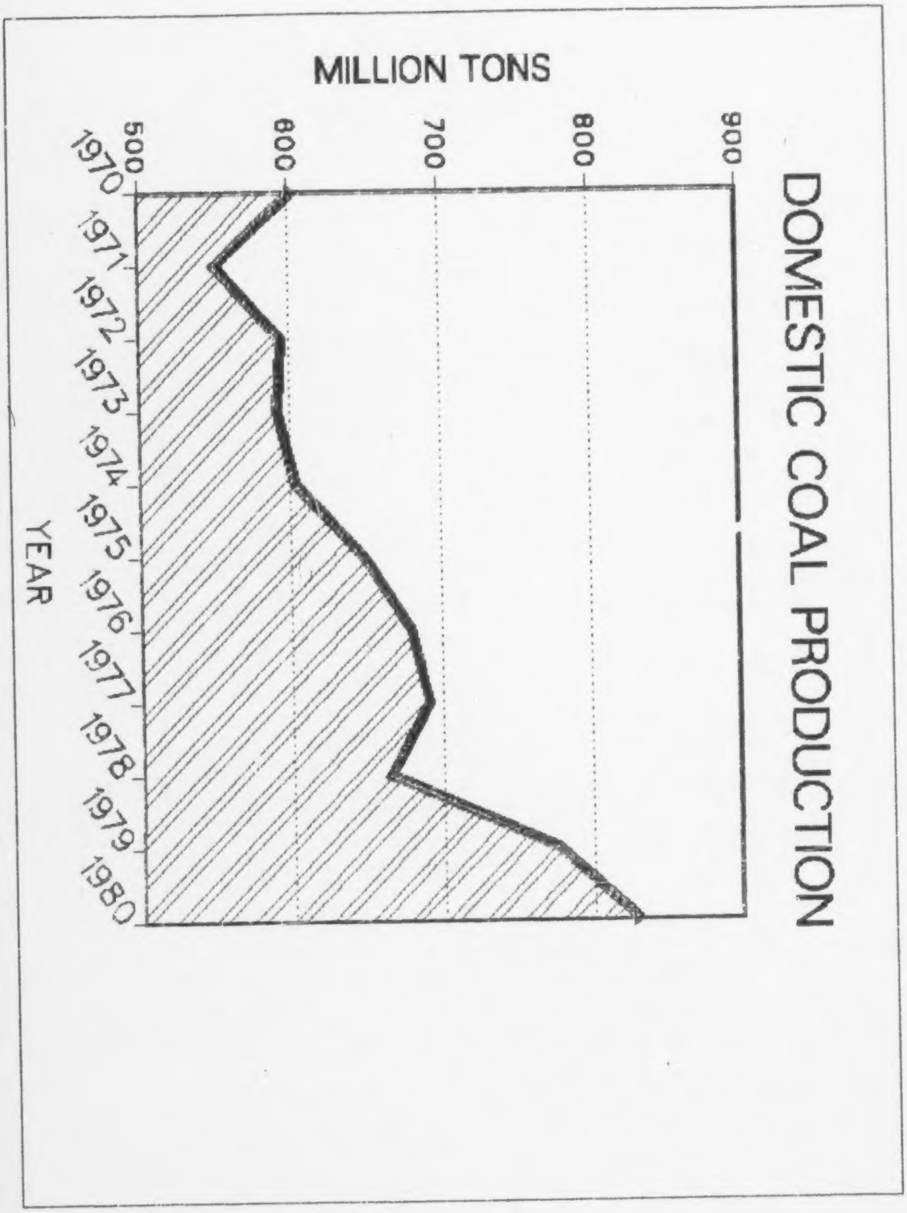
The doubts which have been raised about railroad capability to haul coal have been based on an erroneous assessment of railroad problems.

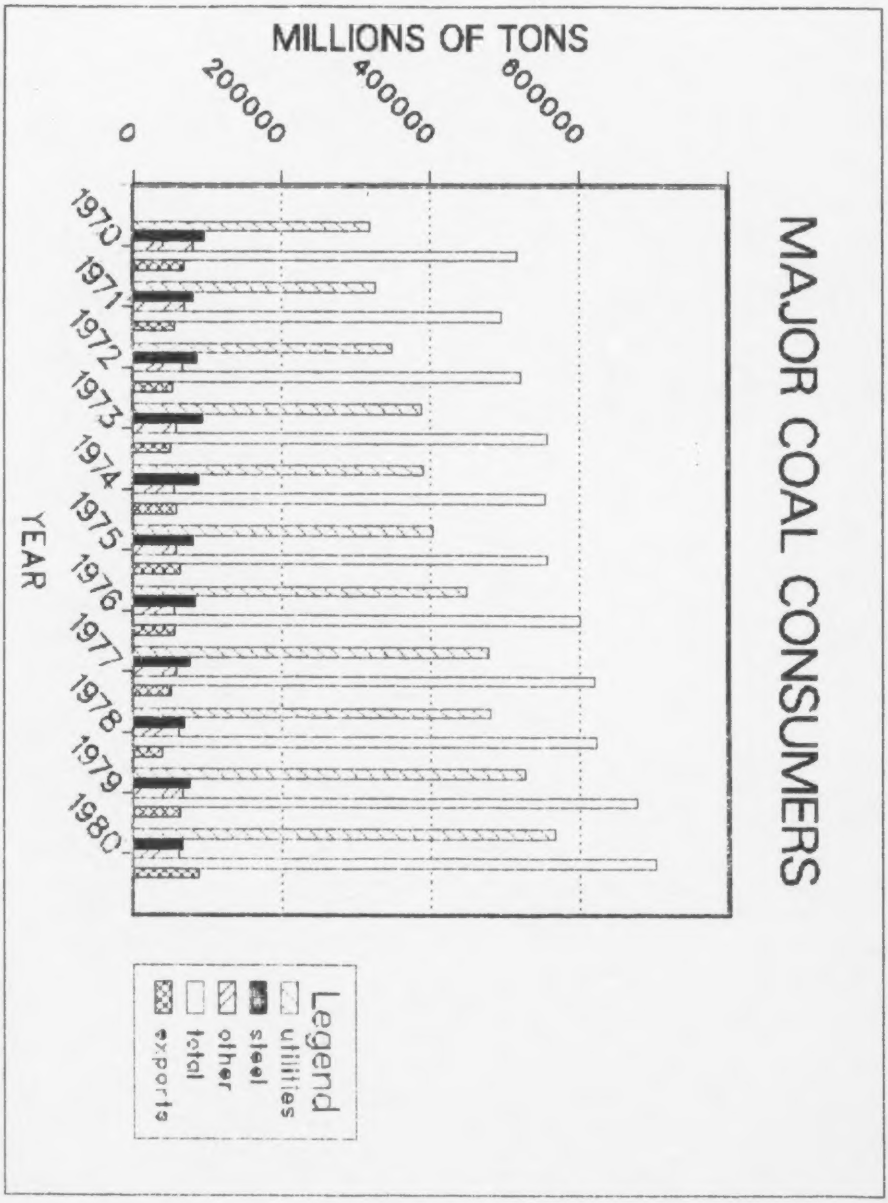
While the financial problems of some railroads are well known, the notion that these problems impair their ability to prepare to handle increased amounts of profitable business is ill-founded. Even a railroad in extremely distressed circumstances can raise money to acquire equipment and improve those parts of the plant that will produce new, profitable traffic to the benefit of all shippers using those facilities. And the handling of that traffic will generate earnings to improve other parts of the plant.

It should be remembered that the railroad problem has not been one of too much traffic. On the contrary, the problem in recent years has been excess capacity. Train-miles per mile of track operated today are less than 50 percent of what they were at the end of World War II.

Now the opportunity exists to turn that excess capacity into a national asset -- one that is all the more valuable because it was purchased at a much lower cost than would be possible today.


TRANSPORTATION OF COAL
MILLIONS OF TONS
0
100
200
300
400
500
600
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
YEAR
Legend
△ rail
× barge
□ truck


DOMESTIC COAL PRODUCTION
MILLION TONS
500
600
700
800
900
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
YEAR


MAJOR COAL CONSUMERS
MILLIONS OF TONS
0
200000
400000
600000
YEAR
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
Legend
utilities
steel
other
total
exports

III

COAL ORIGINATED & MOVEMENT IN UNIT TRAINS
ALL RAILROADS